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EDITORIAL CONTENTS

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FEATURE ARTICLES

Railroads are the Most Notorious Chiselers in the Field of Transportation Today 9
Trucking Code May Be Approved by Christmas 10
17 Changes in Design Would Cut Service Time and Cost 12
The Pennsylvania Railroad's Store-Door Delivery Plan 13
Spirit of Safety Grows and Helps Lower Fleet Accident Rate 37% 15
Commercial Leasing of Trucks and the Viewpoints Involved 18
Flexibility of Truck Transportation Meets Changing Brewery Needs 22
Oil Changing is a Boon Not a Bugaboo and Its Not Costly 24
Pinch the Pennies and Presto! the Fleet Saves Dollars 25
Regional Truck Economy Tests Support Engineering Progress 27
Using the Welding Torch to Fill Special Needs Helps Reduce Truck Operating Costs 30
Tune Ups Done in The Modern Way Pep Engines to Perfect Pitch 32

NEW PRODUCT DESCRIPTIONS

Changes in Design Make the New Ford V-8 More Efficient 35
Diamond T Designs a Completely Stream-Lined Tank Truck 35
Sterling's "Camel Back" Features Tilting Cab 36

DEPARTMENTS

$alvage—From a Shop Man's Mail 17
Post Scripts 21
Court Decisions in Truck Cases 29
The Ear-to-the-Ground Department 37
News of the Industry 40
Commercial Car Journal Specifications 41
Advertisers' Index 58

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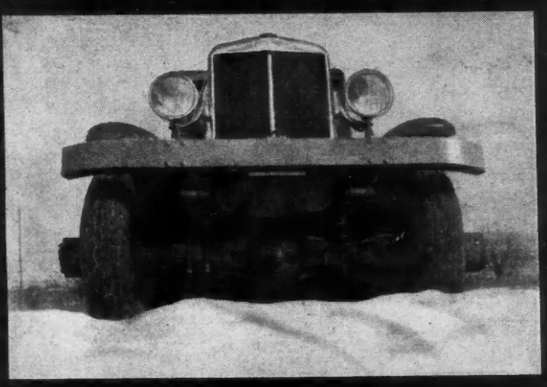

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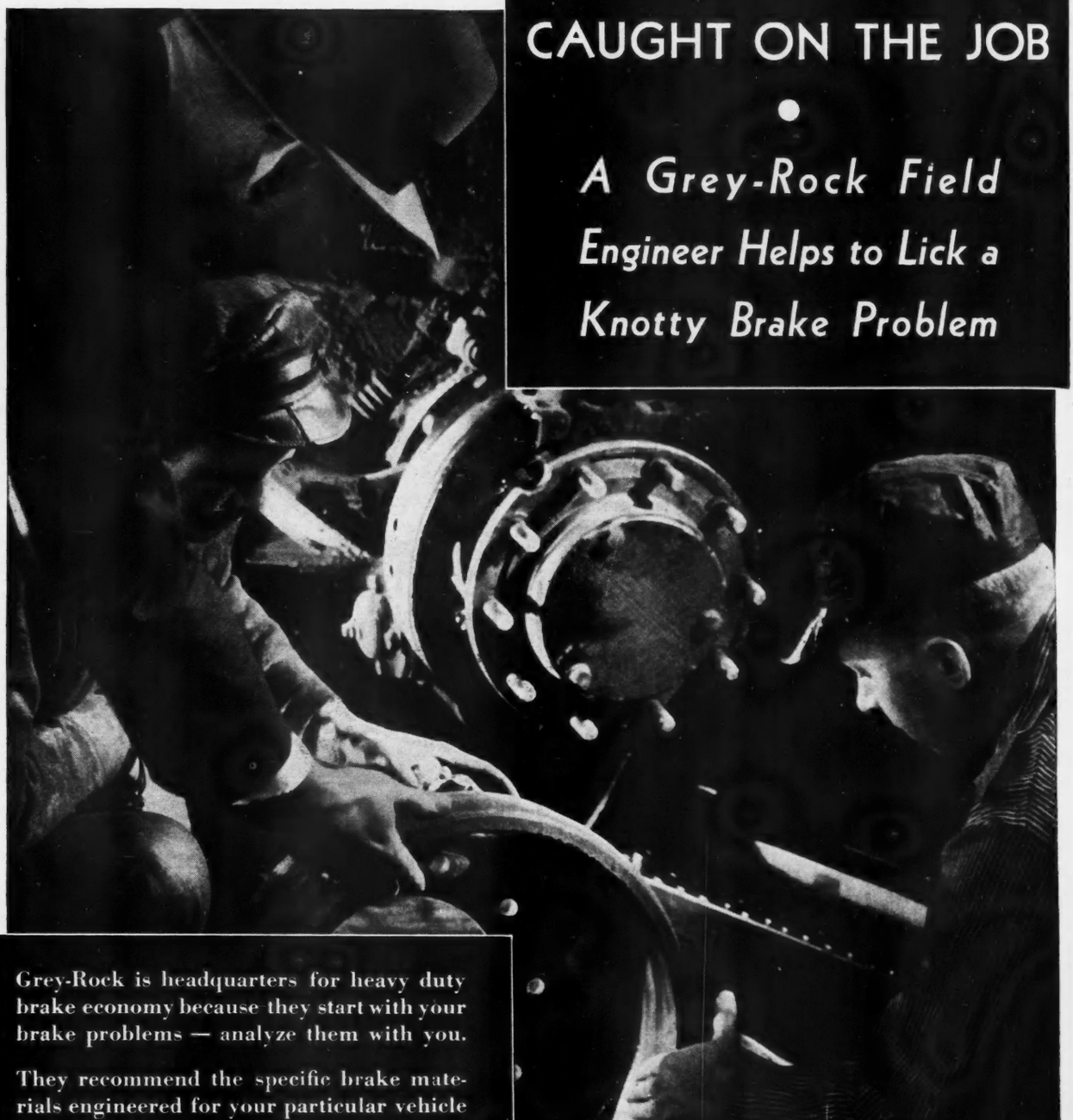

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DECEMBER, 1933 COMMERCIAL CAR JOURNAL VOL. XLVI, No. 4

"Railroads Are the Most Notorious Chiselers in the Field of Transportation Today"

BY TED V. RODGERS, PRESIDENT, AMERICAN TRUCKING ASSOCIATIONS, INC.

THE railroads are the most notorious chiselers in the field of transportation today.

They have accused trucks of "unfair competition"; they have called truck operators "rate-cutters." Yet, the railroads themselves have launched a program of wholesale undercutting which threatens to shatter all existing rate structures. A year ago, they instituted reduced rates "to meet truck competition"; now they are instituting rates, which, if allowed to continue, will destroy truck competition. It is doubtful whether trucks will be able to go rolling on under pressure of such unfair competition.

Let us look at the record of this rate-cutting: In Detroit, the hub of the automobile industry, automobile transporters are facing complete destruction of their business in proposed tariffs of the railroads cutting the minimum rates on shipment of automobiles by 25 to 40 per cent under existing truck rates. Yet the railroads last year carried 2,543,833 carloads of automotive freight representing revenue of about $325,000,000. And in 1933 carloadings considerably in advance of those of last year, the corresponding figures this year will show a big increase.

In California, the railroads have filed thousands of rates, each tariff reading, "to meet truck competition." In nearly every case, however, these rates are framed to meet the going rate of the so-called "wild-cat" trucker, who, next to the railroads, is the legitimate trucker's worst enemy. It is impossible for the certificated carriers to compete with the abnormally low rates of the railroads and the "wild-cat" truckers. While these new railroad rates are not compensatory, they are defended on the ground that they do yield something above out-of-pocket cost and are predicated upon the added traffic theory.

There would be no public objection to these cheap rail rates if the railroads could demonstrate to the Interstate Commerce Commission that these rates are compensatory. But by their own admission they anticipate that much of this undercutting will result in loses to them. Such a result would further disrupt rate structures and bring about a transportation bedlam.

The railway Express Agency, on some routes, has reduced express rates to a figure below l.c.l. railroad rates and less than competing truck rates. It appears that the only method of gaining tonnage known to the railroads is to *chisel* against truck rates.

In Florida, Railway Express Agency issued a local commodity tariff last Summer applying on intrastate shipments which effected reductions on 357 items, bringing the rates on these items to the equivalent of railroad rates and offering, in addition, pickup and store-door delivery. This action forced the certificated truckers in Florida to reduce their rates on more than fifty items in order to meet this "new competition," although the express agency tariffs were filed "to meet truck competition." Now, they are applying for reductions on various foodstuffs "to meet truck competition," when it was proved before the local Commission that these new rates, in many instances, would be more than 30 per cent under current truck and rail rates.

Within the last two weeks a number of the leading trunk line railroads have instituted what is known as store-door collection and delivery. In self-defense, several other carriers have put into effect similar tariffs, although they opposed the scheme in argument before the Interstate Commerce Commission as being unwise, untimely and costly. The railroads negotiated a knocked-down and chiseled price with their wholly or partly-owned subsidiary truck organizations to handle the pickup and delivery service. The Pennsylvania Railroad estimated this service would result in a loss of $1,000,000 for the year.

While the plan, at first blush, would seem to be of benefit to the shipper, it inevitably will lead to the giving of special rates, rebates, drawbacks and other unjust discriminations and preferences. The railroads, by abitrarily determining and controlling delivery areas, can favor one shipper as against another. Such practice is in violation of the Interstate Commerce Act and repeatedly has been condemned by the Commission. The shipper is advised that this service will eliminate the necessity for his private trucker which is clearly an indication that the purpose behind the whole program is not merely to *meet* truck competition but to *destroy* the independent truck operator.

Earlier in the year, new rail rates on tires were put into effect in Official Classification Territory. Tires had been classified at first class l.c.l. By reclassifying this commodity to take third class l.c.l., fourth class on 10,000 pounds and fifth class on 20,000 pounds, a reduction in rates of 25 to 30 per cent was brought about "to meet truck competition." But these new rates were below truck rates. The railroads had been carrying more than 50 per cent of the entire tonnage in this territory. If they would carry *all* the tires at these reduced rates, it was pointed out in a brief filed with the Interstate Commerce Commission, the railroads would suffer a loss of $1,000,000 in revenue compared with the revenue they derived from this business before they started to slash rates. When protests were filed with the Interstate Commerce Commission by motor carriers against these tariffs, the Commission took the view that the protest of the motor carriers was not valid because it did not have jurisdiction over trucks.

These are only a few of the numerous instances of the vicious competition of the railroads with which truck operators are confronted today.

The so-called fly-by-night truck operator is only a petty chiseler compared to the railroads. The substantial operators in the trucking business can cope with the irresponsible element in their midst, but this new competition presented by the rate-cutting railroads, particularly with government sanction, offers an obstacle which truck transport finds difficult to hurdle.

What interest has the shipper in this controversy between two agencies of transportation?

Can you visualize the railroads of the United States, with $26,000,000,000 of capital investment, devoting so much of their time and money in fighting the motor truck unless it is for one purpose; and that is, to drive the truck out of business? There has been much talk of coordination and "live and let live"; but that is just so much talk. The fell purpose of the railroads in all this agitation, make no mistake about it, is to regain control of transportation in all its modern phases, to reestablish the transportation monopoly.

And then, where will the shipper be? The shipper will be back to the same place he was fifty years ago when the Federal government had to step in with regulation to protect him against discriminatory practices of the railroads.

(TURN TO PAGE 20, PLEASE)

Scene at the Trucking Code hearing in Washington which was

Code for the Trucking Careful Study, May Be

By George T. Hook
Editor Commercial Car Journal

DOWN in Washington the Battle of the Trucking Code goes on. The code hearing held Nov. 16 and 17 was expected to be the final major engagement leading up to the signing of a treaty of permanent peace under the spreading wings of the Blue Eagle—but it turned out to be only a preliminary skirmish.

Since then practically every day has seen a major battle between representatives of the American Trucking Associations and representatives of the various NRA boards whose motto on codes is "they shall not pass until we okay them." These include the Labor, Legal, Consumers and Industrial Advisory Boards and the Economic Research Division of the NRA.

And although battle-worn, the faithful guard of the A.T.A. known as the Code Contact Committee, is hopeful it will be out of the trenches by Christmas with victory in the form of a satisfactory code.

The hearing on the proposed code developed considerable sniping from opposing elements, chiefly farmer, labor and shipper organizations. This sniping was expected and although it inflicted casualties on several sections of the code which have tested the surgical ability of the Code Contact Committee, it served one good purpose. It encouraged the local cartage operators in metropolitan areas and over-the-road haulers to conciliate their differences and thus make it possible for the American Trucking Associations, Inc., to present a united front in support of the proposed code at the hearing.

This conciliation was effected when the code was amended to permit local trucking groups in metropolitan areas to file appendices to take care of their working hours, wage and trade practice problems.

This amendment, however, has since received official NRA disapproval. At a meeting of Contact Committee members with Deputy Administrator Hughes and his assistants, NRA spokesmen pointed out the difficulties in setting up appendices, including the necessity of separate hearings, securing the approval of President Roosevelt, etc. It was indicated that Code Authorities for such natural divisions, representative of the substantial element of the division, would be set up, and that provisions covering trade agreements in hours of labor, wages, rates and tariffs and fair trade practices, would be so clarified as to permit local cartage men and other natural divisions of the trucking industry to more easily arrive at such agreements. Code Authorities thus set up would work through the National Code Authority.

The code as published in this journal last month was amended in quite a few particulars by the A.T.A. during the hearing. But the amendments will be omitted from this report because the day-to-day discussions are resulting in so many code changes that it would be a waste of time to try to record them all. Practically every day sees a new code but while quite a few changes are being made not many of these involve fundamental principles. The changes deal chiefly with inconsistencies in the code and the ironing out of objections raised by opponents.

The opposition of various farm organizations centered on the belief that while the code specifically exempted the farmer who transports his own property, produce or supplies, the exemption ought to be a great deal more comprehensive. Mr. McCloskey, of the National, asked exclusion from the "industry definition" of all those trucks which are primarily engaged in hauling farm products from the farm and supplies to the farm. Supervision of these privately owned and for-hire trucks, he said, should be left to the Agricultural

Watch for the Code

IF, as expected, a Trucking Code is approved by the President by Christmas, readers are assured that the code in its entirety will be published in the January number.

In any event the provisions of the code will be published as soon after for reference. Fleet readers particularly will find it valuable.

attended by prominent truck operators from all over the country

Industry, Undergoing a Approved by Christmas

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The Faithful Guard

HERE is the membership of the A.T.A. Code Contact Committee: Ted V. Rodgers (Pa), R. B. Thompson (Cal), Percy F. Arnold (RI), Geo. W. Daniels (NY), C. F. Jackson (Ohio), C. C. Stewart (Ill), E. J. Buhner (Ind), Walter H. Beck (Tex), H. C. Mims (SC), Fred O. Nelson, Jr. (NY), John Money (Mo), J. F. Winchester (NJ), C. Howard (Ky.) Give them a hand!

Adjustment Administration and the Secretary of Agriculture.

Ex-Senator Brookhart, representing the National Farmers Cooperative Union and the American Farm Bureau Federation, declared himself in full accord with Mr. McCloskey's views. The truck business as it relates to agriculture, he declared, should be left to supervision by the Department of Agriculture.

The farm group opposition was based on the general theory that regulation of trucking as contemplated would increase farm prices, decrease the usefulness of the truck as an indispensable adjunct to agriculture, and so be contrary to the intent of the Administration's agricultural relief program.

In a brief filed with NRA covering this opposition, the A.T.A. countered that elimination of trucks hauling farm produce or supplies to farms would completely demoralize the truck transportation business. It pointed out that the total tonnage of agricultural products moving by truck in agricultural states probably exceeds the tonnage volume of all other commodities. About 2,289,000 tons of livestock moved in 1932 from farm to market by truck and about 405,000 tons of cotton were so transported. In addition, the volume of shipments by truck of grain, wool, foodstuffs, fruits and vegetables is tremendous. A large percentage of this transportation is handled by for-hire vehicles. Any demoralization of this service would tend to demoralize farm prices and increase trucking costs. If products of the farm are exempt, then trucks engaged in that business could not develop the back-haul in miscellaneous commodities, a factor tending to keep farm transportation costs down. The best interest of the farmer is served by allowing the business of transportation to utilize, under supervised self-government, the entire flow of traffic both ways to reduce the cost per load. It was admitted that the Agriculture Adjustment Act takes jurisdiction over agencies handling agricultural products, but if the term "handling" was intended to include the act of transportation, the steam and electric railways and steamships also would be subject to the Act.

Exclusion from the provisions of the Code was also requested by the National Co-operative Milk Producers Federation, the National Retail Coal Merchants Association and the National Furniture Warehousemen's Association.

Milton E. Robinson, of the Code Committee of the coal group, pointed out that the coal code has greater limitations on working hours than the trucking code. He saw inequality in this in that a hauler from a coal mining town, with lower wages applying to "the point of origin", as specified in the trucking code, would have an unfair advantage over the city trucker whose trade area the small town coal man would invade.

The A.T.A. brief replied to this protest thus: "Segregation of the transportation of coal, whether by private or for-hire vehicles, obviously is impossible because all types of service are interwoven. The merchant or manufacturer should not be allowed to extend his jurisdiction to the control of the incidental factor of his business which is the primal function of this Industry."

To the objections of the milk and furniture groups, the A.T.A. responded in this fashion: "Desire of certain groups of haulers-for-hire to separate themselves from the Industry is believed to be due to a failure to understand the administrative facilities provided in this code for the use of the natural divisions of the Industry. The administrative provisions are designed to allow separate subordinate Code Authorities for their peculiar problems. Inasmuch as all these specialized operations are interwoven in actual and possible operation with other trucking

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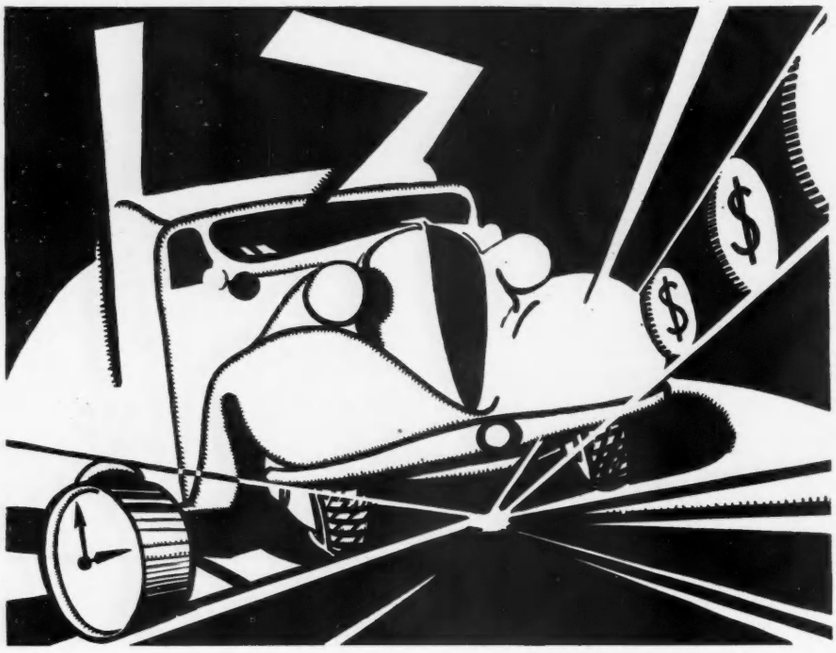


By J. F. Winchester
Supervisor of Motor Equipment
Standard Oil Co. of New Jersey

THE changes in truck design which Mr. Winchester suggests are based on his experience as one of the country's most capable transportation experts. They apply to the fuel, lubricating, electrical and cooling systems and to the chassis. If you check with him, tell us.

17 Changes in Design Would Cut Service Time and Cost

TODAY progress in design is rapid, due to the high degree of perfection which the art of automotive engineering has reached. Advances in design from the service standpoint, however, leave much to be desired in respect to the accessibility of parts and units requiring periodic servicing.

Experience has shown that those parts or units difficult to service are often partly or completely neglected. This results in failures, short life, high operating cost, and general customer dissatisfaction; or at least in the operator obtaining considerably less than the maximum performance of which the vehicle is capable.

The following suggestions include a number of design changes which are feasible and which would definitely facilitate servicing. These apply to the fuel, lubricating, electrical, and cooling systems, and to the chassis.

1. Gasoline Fill Pipe. It would be desirable to standardize on the location of gasoline-tank fill pipes—preferably on the left side of passenger cars—and to provide straight pipes of generous diameter to avoid any tendency to air lock and run over—thus speeding up service. On trucks the fill pipe should extend through the side of the cab or body, for easy and safer filling; and on the right side, because it is safer—in that it is less likely to be sideswiped.

2. Oil Gage Location. On many engines the crankcase oil gage is so located that it is difficult to remove and extremely difficult to replace—frequently resulting in soiled clothes and burned fingers which, in the case of the owner-serviced car, might deter the owner from checking the oil.

3. Crankcase Fill Pipe. The crankcase fill pipe should be on the same side of all cars, preferably on the left. Due to the inconvenient location and the use of non-removable screens and constrictions or turns in many existing fill pipes, the filling operation is slowed up and motor oil is spilled over the engine.

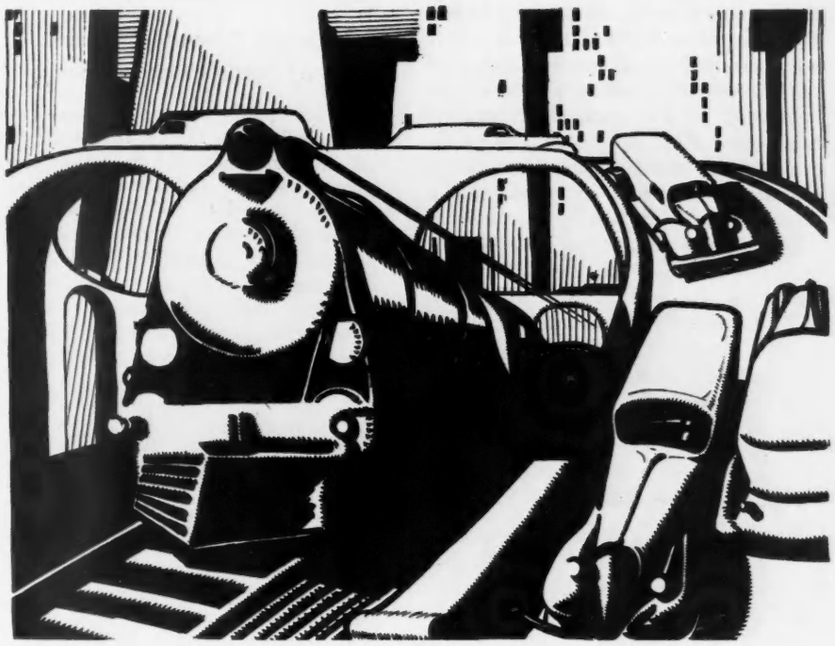
4. Crankcase Drain Plugs. Crankcase drain plugs should be larger than those now in common use, and should, if possible, be the same size for all cars—permitting the use of a minimum number of wrench sizes. They should be located so that they can be removed without loss of time or skin by the operator. Several devices for flushing crankcases are now being developed, some of which are inserted through the drain opening; and the use of larger plugs would eliminate one of the principal difficulties in the use of such a device.

5. Gear Case Drain Plugs. The service personnel is greatly handicapped in the efficient and regular draining and flushing of transmissions and differentials, due to the lack of a suitable drain plug in the bottom of these cases—it being the practice in many instances to supply only a fill opening.

6. Clutch-Release Bearing Lubrication. The fitting for lubricating clutch-release bearings should be located so that this operation can be performed without raising floor boards or removing some other part. On many cars now in service the time and trouble required in preparing to perform this simple operation are ridiculously out of proportion to the time required for the actual greasing. In such cases it is the practice to make an additional charge, which is an unnecessary burden

(Turn to page 34, please)

By G. Lloyd Wilson
Professor of Transportation
University of Pennsylvania



HERE are complete details of the Pennsylvania Railroad's store-door collection and delivery service and the proposed arrangements with established truckers. At the time of going to press competing railroads were still deliberating the question of filing competitive tariffs.

The Pennsylvania Railroad's Store-Door Delivery Plan

AFTER a long period of negotiation and investigation the Pennsylvania Railroad established a general system-wide store-door collection and delivery service effective Dec. 1, 1933. The collection and delivery services are provided in 17 States and the District of Columbia and to some extent between points in these States and points in other States within the distance limitations imposed by the arrangements.

The path of the Pennsylvania Railroad in establishing the store-door arrangements in Eastern Territory was by no means smooth. President W. W. Atterbury, of the Pennsylvania Railroad, prior to establishing the service asked Joseph B. Eastman, the Federal Coordinator of Transportation, whether he would object to the establishment of store-door collection and delivery services in connection with less-than-carload traffic in view of the fact that a study of the handling of less-than-carload traffic was being made by the Federal Coordinator's staff. The Coordinator replied to President Atterbury that he would welcome such an experiment.

This departure from the conventional plan of transporting freight in Eastern Territory disturbed other eastern railroads and resulted in a vigorous protest made to the Federal Coordinator of Transportation by F. E. Williamson, president of the New York Central Railroad. Mr. Williamson expressed the opinion that the proposed plan was contrary to the provisions of the Emergency Transportation Act of 1933 which prohibits unnecessary duplication of services and facilities, and prevents allowances and services that unduly impair the net earnings of the railroads. Mr. Williamson argued that once store-door delivery services were established in connection with less-than-carload freight the eventual result would be the extension of the services to carload traffic and become a powerful weapon by which one railroad could invade the territory of another, that motor competition was not confined to less-than-carload traffic moving at class rates, and that the establishment of collection and delivery services would disrupt the relationship of carload and less-than-carload rates.

The Federal Coordinator replied to these contentions that he would not be justified in forbidding the experimental establishment of collection and delivery services without evidence pointing unmistakably to the conclusion that it would result in waste, which was not borne out by the experience with store-door freight services in the United States or abroad. It was pointed out that there was no better way to find out what the results of store-door services were than by actual tests, and that if infractions of the Interstate Commerce Act resulted from the operation of the services those adversely affected by them had adequate remedies in proceedings before the Interstate Commerce Commission. Attention was called to the inconsistency of the protest of one railroad against the performance of collection and delivery services by another railroad when these services were being performed by a freight forwarding company controlled by the protesting railroad.

Mr. Eastman stated in his reply a fundamental transportation policy of great importance to railroads, shippers and motor transportation operators which is eminently worth repeating:

"I have never subscribed to the theory

that a carrier by the construction of terminal facilities, lapse of time, or otherwise, establishes preemptive rights to the business of an industry or group of industries. If any such rights existed heretofore, they have been effectively destroyed by the invasion of the transportation field not only by motor vehicles but by carloading companies."

The formal protest of the Eastern railroads against the store-door service plan was filed with I. C. C. by D. T. Lawrence, chairman of the Trunk Line Association. The petition held that the proposed charges for the service would not cover the cost and that they were therefore tantamount to a reduction in rates.

● *Participating Carriers*

The proposed store-door services were discussed by the Trunk Line Traffic Association comprising all of the railroads in eastern territory, but all of the railroads excepting several short lines and New England railroads that already had established their own plans of store-door freight services held aloof from the arrangement. Accordingly, the Pennsylvania Railroad filed with the Interstate Commerce Commission, as required by law, a tariff providing for collection and delivery services in connection with commodities rated at class rates either in less-than-carload or in any quantity lots. Both pick-up and delivery services are rendered at request of shippers or consignees in connection with traffic moving between approximately 2000 cities and towns in 17 States and the District of Columbia served by the Pennsylvania Railroad and the lines participating in the service.

Three railroads participate in the arrangement as originating, intermediate and delivery lines: the Pennsylvania Railroad, Pennsylvania & Atlantic Railroad, and Boston & Maine Railroad. Eight railroads participate as originating and delivery carriers.

● *The Service*

Collection or delivery services or both are rendered by the Pennsylvania Railroad through the agency of established truckers, but the shippers and consignees deal with only one person, the authorized agent of the railroad company at the point of origin or destination. Outbound shipments are collected from the shippers and inbound shipments are delivered to the consignees at the request of the patrons. The railroad company holds itself ready to honor all requests for collection service promptly, but it does not accept responsibility for the shipments nor for delay until the freight is actually loaded upon the cartage vehicles.

Some Probable Effects of Store-Door Service

IT is premature to venture an opinion with respect to the effects of this arrangement on other railroads, shippers and truckers but attention is called to the following important features of the service:

1. It tends to promote local short-haul cartage services and to discourage long-haul motor freight transportation, especially in connection with relatively high-grade, short-haul traffic.
2. It improves the competitive position of the railroad in connection with such traffic by affording greater convenience and speed in handling less-than-carload traffic.
3. It brings in closer working relationships the railroad and the local cartage companies with whom contracts are made to perform collection and delivery services, and it tends to diminish the contacts between the railroads and the motor transportation companies who do not participate in the arrangement.
4. It tends to increase the attractiveness of the less than carload service of the railroad offering collection and delivery services as compared with the services of railroads which do not offer the services.
5. It enables the railroad offering the collection and delivery services to reach shippers and consignees at all points it serves without regard to the location of these shippers or consignees on private sidings connected with other railroad lines and without regard to the location of its or other railroads' freight stations.
6. It tends to discount the advantages, imaginary or real, of the ownership and operation of fleets of motor vehicles by industrial concerns, in so far at least as traffic eligible to receive free collection and delivery services is affected.
7. It marks another tangible instance of the rising tide of railroad store-door freight collection and delivery services, now offered by more than 50 railroads of the United States.

The shipments are covered and handled under the terms and conditions of the uniform straight bill of lading contract, and the bill of lading covering each shipment must indicate whether collection and delivery services are required and must show the street address of the consignee.

The collection service includes calling for the goods and the issuance of receipt at the place of business of shippers directly accessible to trucks and the transportation of the freight to the railroad freight station. The delivery service includes the trucking of the goods from the railroad station at destination and delivery at the platform or doorway of warehouse, factory, store or place of business of the consignee, provided the location is accessible to motor vehicles. Delivery receipts are taken for the goods by the drivers of the trucks. The collection and delivery services are performed, as a rule, within the corporate limits of the cities or towns in which the services are rendered, or within a radius of one mile over the shortest route available to freight vehicles from the railroad station, at places where there are no corporate limits. The railroad is relieved of obligation to collect or deliver freight if the condition of streets or alleys adjacent to the places of business of shippers or consignees makes it impractical to operate vehicles.

● *Tender Shipment Once*

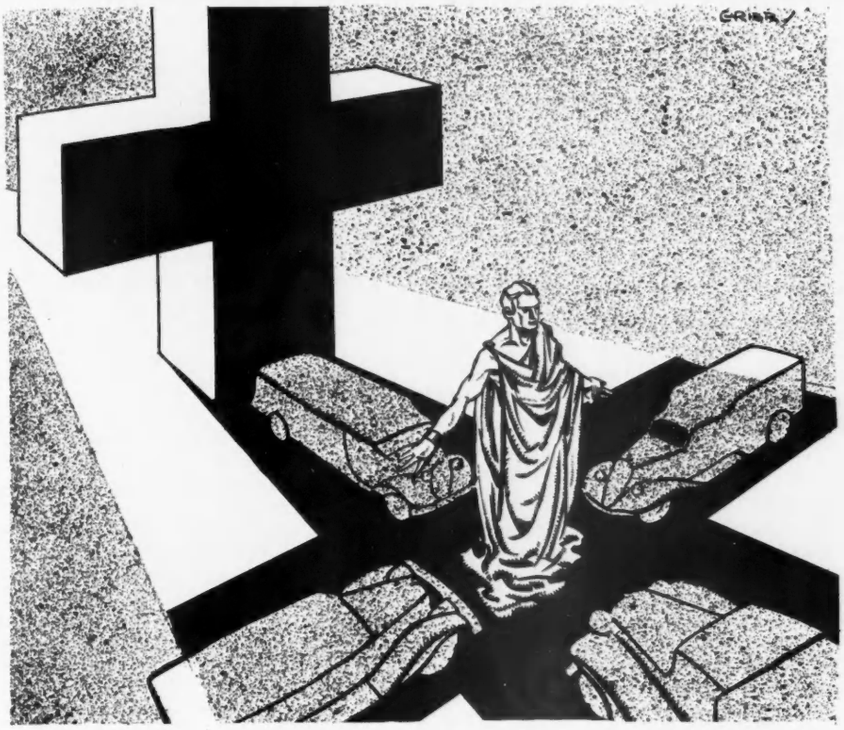
If delivery service is to be performed by the railroad, no arrival notice is sent notifying the consignee of the arrival of the goods at destination. The goods are trucked directly to the premises and tendered for delivery. Only one tender of the shipment is made. If the shipment cannot be delivered through no fault of the railroad, it is returned to the freight station and a notice of the tender on the consignee's premises to serve as a notice of arrival and as notice of where the freight is held. While the goods remain at the railroad freight station after unsuccessful tender at the consignee's place of business, they are subject to the disposition orders of the owner or consignee and subject to the uniform storage rules and charges of the carriers.

Shippers or consignees who have private sidings may have inbound or outbound shipments transferred between these sidings and the railroad freight stations in railroad ferry cars, instead of by motor trucks, at the option of the railroad. The shipments so handled are not subject to the minimum weights required by the railroad tariffs for ferry car service.

● *Rate Arrangements*

Under the provisions of the Pennsylvania Railroad store-door freight service plan, shipments which move between points on the Pennsylvania Railroad and the other carriers participating in the plan for distance up to approximately 260 miles are given collection or delivery services or both at request of shippers or consignees, provided the shipments move at rates which are at least 35 cents per one hundred pounds and the entire ship-

(TURN TO PAGE 16, PLEASE)



Spirit of Safety Grows and Helps Lower Fleet Accident Rate 37%

By A. E. Lundsteadt
Claim Agent
Bowman Dairy Co., Chicago

THE second National Fleet Safety Contest was completed June 30, of this year, and the third competition is now under way with a greatly increased registration and interest.

It is my purpose to give a general picture of the present status of safety in commercial vehicle operation.

In compiling data for the fiscal year 1932-33, it was desired to have the experience of as many fleets as possible. In addition to the facts reported by fleets in the contest, therefore, additional data were gathered from National Safety Council members not competing in the contest, and also from a considerable number of fleets affiliated with local community safety councils throughout the country.

As a result, it was possible to obtain accident data for 602 fleets with over 41,000 vehicles in use and operating 583,000,000 miles during the year. This represents a sizeable exposure and we can feel considerable confidence in the accuracy of the figures.

The 602 fleets, which consist entirely of either gasoline or electric vehicles, experienced 3.04 accidents per 100,000 miles during the fiscal year 1932-33. In other words an accident occurred for about every 33,000 miles of operation. This is an average figure only, of course, and there was considerable variation from this average among the different types of fleets. Before passing on to this, however, let us see how the general average for last year compares with earlier periods.

It is a pleasure to report that accident rates were materially reduced last year. Accidents per 100,000 vehicle miles declined 37 per cent in comparison with 1931 and this improvement, together with a smaller reduction in 1931, makes a total decrease

Compare Your Fleet Record With This Vocational Analysis of Commercial Vehicle Accident Rates

July, 1932 to June, 1933

GROUPS	No. of Fleets	No. of Vehicles	Vehicle-Miles (000)	No. of Accidents	Accident Rate
ALL MOTOR VEHICLES	595	39,298	583,405	17,746	3.04
PASSENGER CAR	12	691	9,531	248	2.60
BUS	44	2,478	110,451	3,266	2.96
COMMERCIAL TRUCKS	539	36,129	463,423	14,232	3.07
Petroleum	54	10,208	150,434	2,989	1.99
Inter-city Trucking	16	331	10,042	210	2.09
Misc. Mfg. Plants	38	335	4,571	99	2.17
Ice	7	276	2,537	60	2.36
Transfer & Storage	15	265	3,897	96	2.46
Other Light Delivery	8	200	3,489	87	2.49
Public Utility	86	12,130	128,561	3,556	2.77
City and Inter-city Trucking	12	509	9,237	263	2.85
Bakeries	38	2,046	30,304	957	3.16
Dairies	17	1,087	13,435	431	3.21
Meat Packing	23	731	10,708	407	3.80
Beverages	10	501	5,080	208	4.09
Laundries	50	1,337	16,628	702	4.22
Coal and Ice	23	1,208	11,401	544	4.77
Building Materials	11	146	1,730	87	5.03
City Trucking	48	2,047	20,827	1,081	5.19
Department Stores and Other Retail Delivery	60	1,512	23,066	1,290	5.59
Newspapers	11	570	11,001	715	6.50
Fuel	12	690	6,475	450	6.95
HORSE DRAWN	7	1,904	5,608 (a)	573	10.22 (b)

(a) Vehicle-hours. (b) Accidents per 100,000 vehicle-hours.

of 41 per cent since 1930. The improvement in the past year is based on the records of 306 fleets operating about 22,000 vehicles that traveled nearly 320,000,000 miles during the year. Exactly the same fleets were used for both years in making the annual comparisons so that this change is a reliable indication of what occurred in a very large exposure.

Turning now to an analysis of the past year's experience we find that small fleets, as in previous years, had lower accident rates than large ones, averaging 2.42 against 3.35 for the large units. These rates summarize the reports of all groups that have been divided into these two size classifications. The rates of small fleets, likewise, are generally lower in such groups as department stores and other retail delivery, laundries, and public utilities where reports were classified into large, middle-sized and small units. There are, however, exceptions in some classifications. Large petroleum fleets, for example, averaged 1.88, in comparison with 2.17 for small units, and large dairies, operating almost entirely in large cities, had less than half as many accidents per 100,000 miles as their smaller competitors.

● *Truck Rate Is 3.07*

Considering the three principal types of motor vehicle fleets, commercially-used passenger cars had the best experience, averaging 2.60 accidents per 100,000 vehicle miles, and commercial trucks had the worst records, averaging 3.07. Bus fleets engaged in both city and inter-city transportation had the comparatively low rate of 2.96 which, however, is due to the favorable experience of inter-city bus fleets. Such fleets averaged 1.04 accidents per 100,000 vehicle miles, in comparison with 6.00 for buses operating over city streets.

Rates among 19 different types of commercial trucks ranged from 1.99 for petroleum fleets to 6.95 for units engaged in hauling fuel. The rates of fleets operating mostly in urban sections are, on the whole, higher than for vehicles used mostly in rural areas. Inter-city trucking fleets had an average rate of 2.09; fleets operating in both urban and rural territories averaged 2.85; but trucking companies whose operations are confined almost entirely to cities averaged 5.19.

An examination of individual fleet records indicates, of course, that there are many possibilities for improvement in every classification. Rates among 28 large public utility fleets, for example, vary from 0.76 to 25.07 with a average of 2.77; among large department stores and similar retail delivery units, the best rate is 1.66, the average is 5.59, and the highest rate is 18.81. A reasonable goal for a high-rate fleet is the average for its size and type.

An analysis made by the National Safety Council staff indicates that fleets definitely known to have adequate safety programs have been successful in reducing their high rates for previous years. One city bus company located in a large eastern city reduced its rate 64 per cent in the past year; a large bakery along the Atlantic Coast had a reduction of 59 per cent; and a large fleet of passenger cars and trucks operated by a public utility company decreased its rate 49 per cent.

Pennsylvania Railroad's Store-Door Service

(Continued from page 14)

ments pays at least 50 cents, for the rail haul and store-door collection and delivery services.

If the rates are less than 35 cents per hundred weight an amount for collection or delivery service is made to bring the rate up to 35 cents, or if the entire shipment is rated at less than 50 cents, an amount sufficient to bring the charge up to 50 cents is added for the collection and delivery services.

Collection or delivery services are rendered in connection with less-than-carload traffic destined to or received from connecting lines, railroads not participating in the plan, if the rates are 29 cents per one hundred pounds by adding 6 cents per one hundred pounds for the collection or delivery service, whichever is performed. A minimum charge of 25 cents per shipment is made for each collection or delivery service performed in connection with shipments moving to or from points on other railroads which do not participate in the plan.

For shipments moving over 260 miles, a sliding scale of collection and delivery charges is added to the railroad station-to-station freight rates. If the shipments move or are to move for distances of 261 to 280 miles, a charge of 2 cents per one hundred pounds is made for either collection or delivery or both. If the distance is 281 to 300 miles, the charge is 4 cents per one hundred for pick-up delivery or both. A charge of 6 cents per one hundred pounds for either collection or delivery service, or both, is made when the freight moves for distances between 301 and 320 miles. If the distance is between 321 and 340 miles, the charges are 6 cents per one hundred pounds for pick-up or delivery or 8 cents per one hundred pounds for both services. The charges are 6 cents per one hundred pounds for pick-up or delivery, or 10 cents for both services in connection with freight moving between 341 and 360 miles; and 6 cents per one hundred pounds for either and 12 cents per one hundred pounds for both services in connection with traffic moving distances over 360 miles.

Collection and delivery services are not performed in connection with certain kinds of dangerous, explosive, excessively fragile, inflammable or noxious freight or traffic transported under special arrangements, including: high and low explosives, smokeless powder, show cases, live animals—poultry and game, hides and skins—undried, perishable freight requiring icing, freight in bond, and freight transported on negotiable order bills of lading.

● *Arrangements With Truckers*

The Pennsylvania Railroad has stated its policy in establishing the services of collection delivery to use the facilities of established, reputable local truckmen who can work together with each other and with the railroads in performing these collection and delivery terminal services. Through this plan the services of motor cartage companies will be used in terminal services and the highways will be kept clear of inter-city truck traffic which the railroad believes can be more efficiently and dependably transported by railroad.

The collection and delivery services are rendered free in connection with relatively high-grade short-haul merchandise less-than-carload traffic because it is believed that motor truck competition is most keen in connection with such freight within the limits of overnight service, estimated to be about 260 miles. The minimum rate of 35 cents per one hundred pounds makes the services impracticable in cases of short-haul traffic in the lower rate classes. When shippers have relatively low rates on lower rated commodities they must pay for collection and delivery services, and the combination of rail and cartage rates may in such cases be higher than competitive motor transportation rates.

Obviously all short-haul traffic moving rates under 35 cents per one hundred pounds are affected regardless of class. The raising of the combined rail and cartage rates affects classes lower than first class as follows:

Fifth class freight up to distances where the first class rate is as high as 87 cents per one hundred pounds;

Fourth class freight up to distances where the first class rate is as high as 70 cents per one hundred pounds;

Third class freight up to distances where the first class rate is as high as 50 cents per one hundred pounds;

Second class freight up to distances where the first class rate is as high as 41 cents per one hundred pounds.

$ALVAGE—From a Shop Man's Mail

This month the shop man who conducts this department devotes the entire page to the various valuable publications that are available to readers free of charge. Fleet men particularly will find them of practical value. If you want any or all of them just check the order blank below and mail it in to the $alvage Department, *Commercial Car Journal*, Philadelphia, Pa.

I NEVER heard of a shop man throwing a check away because he did not take the trouble to open the envelope and find out what was inside. But the stack of mail I received after being away sick for two weeks shows that shop men are likely to throw away something worth as much as some checks "on account" unless they look into the bulletins and catalogs which a lot of companies are sending out or offering to send out for nothing. Just a few will prove the point. And remember if you want any of them or all of them first fill out the order blank below and mail it in to me.

1. Ball Bearing Service Manual

Marlin-Rockwell Corp., maker of Gurney, SRB, Strom, and M-R-C ball bearings, has just issued through its M-R-C Bearings Service Co. division the 1931-32-33 supplement to its ball bearing service manual. Ball bearings used in clutch, transmission, wheels, rear axle, generator, fan and other parts of passenger cars, trucks, buses, tractors and farm machinery, and even aircraft, are listed by make and model of vehicle.

2. Crankshaft Bearing Catalog

Federal-Mogul Corp. has a supplement to its 1933 bearing catalog listing the new steel-back type of bearings used in connecting rods of many vehicles. It also lists both standard and undersize steel-back babbitt-lined bearings and bronze-backed babbitt-lined crankshaft bearings for all 1933 models.

3. Aluminum Body Data

The 50-page book explaining how to design aluminum alloy bodies issued by the Aluminum Co. of America has aided body builders and fleet men in this country and abroad to solve problems involved in building bodies to best advantage. The drawings and directions are based upon extensive experience and should save a lot of experimenting. The books are being grabbed by alert operators but there are some left.

4. Clutch Plate Book

It happens right along that a mechanic or stock man would give a lot to know what kind of clutch plate is in a given model vehicle. The Russell Mfg. Co. has compiled the information on trucks and passenger cars built during the past 14 years in a 24-page book of information in concentrated form. You should have one for your stock room.

5. Armature Book

Armatures for generators and starters for trucks and passenger cars built from 1919 to 1933 are scheduled in a new 72-page book issued by the Fredericks Armature Division of E. Edelman & Co. Vehicles are listed by make and model, showing the original generator and starter equipment and the part number of the Fredericks replacement. A second listing shows the interchangeability of each Fredericks armature. Proving that much valuable information can be put in a small space.

Please send me the following

Free Books

(Check numbers wanted)

- ☐ 1. Ball Bearing Service Manual.
- ☐ 2. Crankshaft Bearing Catalog.
- ☐ 3. Aluminum Body Data.
- ☐ 4. Clutch Plate Book.
- ☐ 5. Armature Book.
- ☐ 6. Wheel Catalog and Handbook.
- ☐ 7. Wiring Catalog.
- ☐ 8. Bolt and Bushing Catalog.
- ☐ 9. Hydraulic Jack Catalog.
- ☐ 10. Tire Valve Data Book.
- ☐ 11. Cam-shaped Pistons Book.
- ☐ 12. Screws, Bolts, Nuts Catalog.

Name .....

Title .....

Firm Name .....

Address .....

City and State .....

6. Wheel Catalog and Handbook

Budd Wheel Co. has issued its 1933-1934 catalog of wheels, hubs and parts, but it contains a wealth of information outside the complete listing of Budd equipment. It includes diagrams identifying different types of rims, lists the Tire & Rim Association dual spacing, gives information about change-overs, facts about wheels for Chevrolet and Ford trucks and then catalogs Budd wheels and accessories, including studs, cap and jam nuts, locking rings, etc.

7. Wiring Catalog

Every number of the Belden line of automotive wiring and cables is illustrated in the company's new catalog No. 74, which is printed in two colors. The catalog also includes a wiring chart.

8. Bolt and Bushing Catalog

Keeping track of king bolts and bushings, tie rod bolts and bushings, spring shackle bolts and bushings and tie rod and drag link ball and socket assemblies for trucks and passenger cars is no small job, because of the many different items to be listed. Toledo Steel Products Co. has gone to the trouble of bringing all the information into one catalog which contains an alphabetical listing of vehicles by make, year and model and a numerical listing by part numbers, as well as a progressive size chart of bolts and bushings.

9. Hydraulic Jack Catalog

A new catalog of Silver King hydraulic jacks issued by the Simmons Mfg. Co. is more than a mere listing of jacks in the Silver King line. The catalog contains detailed service information and shows how the proper jack for any specific service may be selected.

10. Tire Valve Data

The various lengths, kinks, offsets and other complications in tire valves on single and dual tires have worried truck men for a long time. A. Schrader's Son, Inc., offers two charts intended to simplify matters. Form 1109 gives specifications of straight, single bend and double bend valves for high pressure and balloon tires for passenger cars and trucks, and Form 991 lists the new convertible type valves, which can be used to replace present-type valves. This chart also describes the valve converting tool used to bend the convertible valve stem to the various shapes required. The chart shows the tool setting and the resulting length of double bend valves when converted.

Anyone who has any work to do on tires (and who does not) will want these two charts on the wall beside his work space.

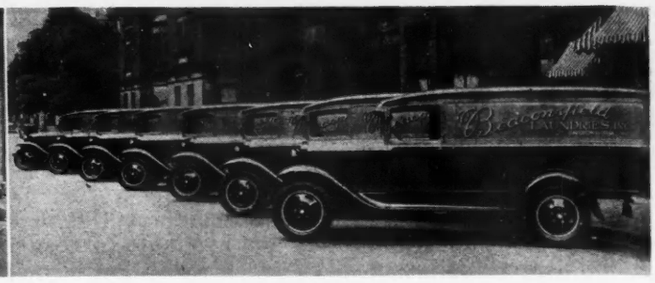
11. Cam-shaped Pistons Book

As most maintenance men know, some pistons are now being finished cam-shaped to provide extra clearance on two sides of the piston where expansion is greatest. This permits fitting the piston to a tighter fit without danger of scoring. A booklet offered by South Bend Lathe Works explains why pistons are made cam-shaped and explains how they can be finished in fleet repair shops on a lathe. The section on finishing cam-shaped pistons is of the practical how-to-do-it type.

12. Screws, Bolts, Nuts Catalog

Pheoll Mfg. Co. has issued a comprehensive catalog of more than 100 pages of standard and special screws, bolts and nuts. Standard diameters and lengths are scheduled together with wing nuts, threaded studs and dimensions of National Screw threads, etc.

This fleet of panel jobs is leased by a dry cleaner



A laundry finds it necessary to use larger vehicles

COMMERCIAL LEASING AND THE VIEWPOINTS

BY E. W. REESE, PRESIDENT OF THE

THE five viewpoints on Commercial Leasing are from that of:

1. The Lessee.
2. The Commercial Leasing Company.
3. The Truck Manufacturer.
4. The Sales Agency.
5. The Garage from which the trucks operate.

1. THE LESSEE

The almost invariable questions from fleet operators are, "If you can do these things, why can I not do them myself?" and, "Why should you be able to operate my own trucks for less than I can?"

The answer to the first question is obvious. They are launderers or bakers or candlestick makers *primarily*, and always will be. Only the *largest* fleet operators can afford to set up transportation departments with trained personnel and management, and it would be uneconomical and impractical for the small operator. Commercial leasing agencies, the lessors, merely take a five-truck fleet here, a ten-truck fleet there, and *make* large fleets with centralized control and low purchasing power which becomes the systematized transportation department of the small fleet. A part of the saving in operation they pass back in lower costs to the lessee, and the remainder is the lessor's profit.

It is not so much a question of the *ability* of fleet operators to do likewise, as it is their intedetermination and lack of sustained effort along preventive maintenance lines. They possibly *could* in some cases, but they *don't*.

By leasing, he can immediately reap the advantages of:

A. Favorable Advertising

The fleet is uniform and totally new, in appearance as well as models and number. It is kept so by complete renewal every 2 to 3 years, and by constant cleaning and periodic waxing.

B. He is Freed from the Operation of a Side Line Business

The leasing plan frees *all* employees from transportation supervision, leaving more time to efficient routing and driver training and management.

Supervisors are freed from listening to driver complaints as to mechanical operation.

Supervisors are freed from lost time and worry caused by mechanical failures of poorly maintained trucks.

Employees are saved time and bother in handling details of insurance claims.

The Accounting Department is freed from a multiplicity of entries and bills, and the necessarily incidental extra expense.

Considerable time is saved in the yearly audit on account of the extreme simplification of a sometimes complicated department.

C. His Transportation Costs Are Budgetable in Advance

Protection is afforded as to costs in an important department for a period which will probably be one of rising prices.

Accurate foreknowledge of exact route costs permits establishment of new routes with small possibility of mistake.

Accurate knowledge of costs of each established route shows whether or not it is profitable in fact.

The guaranteed maximum charge includes every item which properly concerns transportation costs, except wages of drivers.

D. His Truck Fleet is More Flexible as to Size

New trucks are easily and quickly added without necessity for examination of all makes and models to find the truck that will stand up for three or four years.

Units found to be in excess of requirements may easily be removed.

Original fleet and all renewals thereof, as well as additional trucks, are available without a penny of capital investment.

F. His Delivery Efficiency is Increased

Time lost by employees, drivers and shippers, due to mechanical failures, is reduced to minimum because of a careful and conscientious inspection routine.

Prompt road service and adequate supply of quickly available spare trucks prevents possibility of real delays due to unavoidable breakdowns.

G. His Driver Efficiency is Increased

New units kept new and clean promote driver pride and provide smoother, less tiring operation.

Freedom from responsibility for mechanical and tire troubles permits more careful concentration on real business of delivery and sales.

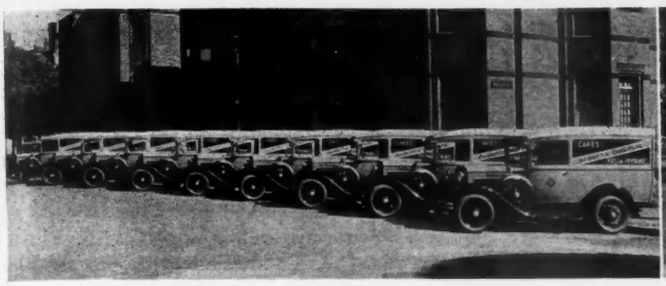
Bonus systems for careful driving promote efficiency and cooperation.

H. His Practical Protection

Control is as complete as under ownership, without the corresponding responsibility.

Fleet is advertisement to Lessor as well as Lessee.

Complete good will of Lessee necessary to Lessor's success and continued growth.



Commercial deliveries meet the needs of this bakery

These units meet every demand of a fastidious florist

OF TRUCKS INVOLVED

● Here, for the first time to our knowledge, the entire truck industry is given a frank and penetrating analysis of commercial leasing—its benefits, how it must be conducted and the problem confronting truck manufacturers and sales agencies. The author sharply criticizes truck makers for their failure to prepare maintenance cost figures for sales purposes. He advocates selling miles not trucks.

UNIVERSAL MOTOR MILEAGE CORP., BOSTON, MASS.

Any profit can come only from more efficient management, and is in inverse ratio to the amount of maintenance necessary.

And lastly, he can return to his business the capital now uselessly frozen in trucks.

2. THE COMMERCIAL LEASING COMPANY

In spite of all the recognized advantages, the sale of the plan is a matter of cost analysis of the Lessee's present cost *NOT* as he thinks them to be, in the usual lump sum as shown on their annual audit as "Transportation Cost," but as they *actually* are, *item by item* from comparison with *known* fixed charges, some of which may be in his audit under other headings, and *must* be dragged into the open. It is an almost invariable rule that successful businesses seldom know their *true* trucking costs, and strangely enough some of them resent the fact that some outsider has discovered this fact.

Frequently a fleet operator will wonder why his panel trucks cost 12 cents per mile when another identical fleet is operated by his competitor for 9 cents and yet the latter's operating costs may be higher than his. A situation so primary as this and yet not understood, seems impossible to automotive men, and yet very few operators understand that the higher their mileage, the less their cost per mile, or vice versa. They don't know what it's all about!

This ability to ascertain the prospect's actual costs from basic information obtainable from the executive as well as the drivers and garages, and the ability to correlate the facts into a self-justified, non-arguable analysis of costs, as they *are* and not as he *thinks* they are, for presentation at the time the lease bid is presented, is the fundamental requirement for the sale of the plan. It is not, as one manufacturer said in commenting on a previous leasing article in this journal, "a case of high pressure salesmanship," or of "being able to sell fans to Esquimaux." If the company behind the lease is well managed, well known, and conveys confidence in its ability to perform the duties it contracts to do—all of which is, of course, necessary—a properly presented and sound cost analysis as it actually exists is sufficient in nearly every case.

Strangely, certified public accountants and auditors are rarely capable of segregating transportation items properly, and a transportation cost analyst is necessary who can also prepare the estimates for the bid. The ordinary automobile salesman can be used only for "bird-dogging," as facts and comparative costs *only* sell this service.

The Lessor supplies a new fleet of trucks, paints them and letters them with the concern's name and colors; equips them as they require for their particular business and with equipment found to be helpful in assuring low cost, and uninterrupted service. The Lessor pays *every* item of expense connected with the trucks, i.e., gasoline, oil, tires, repairs, maintenance, road service, garaging, washing, registration fees, excise taxes, insurance in whatever amounts required, and every item connected with the truck except the driver, who continues on the Lessee's payroll and is subject to his orders, but can be removed by the Lessor in case of willful abuse of the truck.

Bills for this service are rendered weekly, and show the time in and out on each truck each day, together with the miles on each truck daily, and the total for the week. The payment of this bill is the Lessee's only thought in regard to transportation. The forms, records, and accounting system are especially devised for this activity.

The logical prospect is one who uses a public garage, has his own mechanics and a spare truck or two, an old fleet, and delivers merchandise of light load requirement, which eliminates heavy maintenance cost hazards which are difficult to anticipate correctly.

The used truck problem does not exist in a Commercial Lease sale or operation, because the prospect is interested in his cost of operation henceforth. If the leasing plan has been properly presented, his old trucks lose the ethereal value which he customarily places on them when he is *trading* for a new truck. His old trucks are disposed of *for* him on an "on sale" basis, and the proceeds turned over to him. There is no over-allowance problem to worry about.

The financial plan under which successful Commercial Leasing companies operate may be varied as to capital requirement, depending on their affiliation or lack of affiliation with garages, sales agencies or truck manufacturers.

(TURN TO PAGE 28, PLEASE)

Code for the Trucking Industry Undergoing a Careful Study

(Continued from page 11)

operations using the same highways in competition with others, conditions in so far as they are commonly applicable, should be uniform."

The National Industrial Traffic League, representing shippers, protested the inclusion of provisions fixing or regulating rates for transportation. Opposition was on the premise that the League always has opposed statutory and legislative regulation of rates and that the code, in effect, would bring this about. Warning was given that rate increases might force industrialists to operate private fleets. The League urged that private operators be given the option of operating under the code of their industry or under the trucking code.

• *Shippers' Motives on Spot*

This objection immediately drew a searchlight upon the motives of the shippers. James E. Murphy, Industrial Advisor to the Deputy Administrator, promptly asked W. H. Watts, the League spokesman, whether it was not a fact that the League's objection to the rate provisions was based on a desire to have the opportunity to "chisel" any kind of rate its members could get from truck operators. Mr. Watts replied that he could not say that the statement was correct, but he admitted "there undoubtedly is some chiseling."

The A.T.A. brief charged in rebuttal that the objections of shippers was clearly inspired by a desire to take advantage of the unstable conditions in the trucking industry. The proposal to permit a choice of codes was denounced on the ground that it would afford an operator of a privately owned vehicle an opportunity to take advantage of any conditions less favorable to labor in competition with those operating under the trucking code. "Stabilization of rates," it charged, "was opposed so as to perpetuate the practice of chiseling."

• *Labor Asks Shorter Hours*

The hours of labor and wage provisions of the code did not have the support of labor unions. Both the Metal Trades Division of the American Federation of Labor, representing the interests of shop mechanics, and the International Brotherhood of Teamsters, Chauffeurs & Helpers favored a 40-hour week instead of the code's 48.

Recommendations made by the A. F. of L. were: maximum of 40 hours in any one week or 8 hours in any one 24-hour period and no more than 6 days in any one week; time and one-half for overtime, and not less than time and one-half for Sundays and legal holidays; minimum of 45 cents per hour and elimination of the graduated scale based on population; elimination of the line drawn between the North and South regarding wages.

The International Brotherhood favored: 40-hour week with a maximum of 10 hours in any one day and time and half pay for all time in excess of 8 hours per day; wage provisions such as would give labor more than a mere living wage; labor representation on code bodies vested with administrative authority. It opposed relaxation of hours of labor to meet seasonal emergencies.

The code has a scale of wage minimums ranging from 35 to 50 cents an hour in the North and 25 to 40 cents in the South.

• *48-Hr. Week Defended*

Still another labor representative, who said he was organizing truck drivers, suggested a 30-hour week and a minimum of 75 cents per hour for drivers.

To all these objections and recommendations, the A.T.A. replied that following a suggestion, it is expected the Administration will utilize its appointive power to the Code Authority by appointing a labor representative as one of three such appointees; that reduction of hours to 48 per week will mean a reduction on many operations of 25 to 40 per cent, resulting in the added employment of about 500,000 workers throughout the industry, and that to reduce the hours to a lower figure would put many operators out of business and thus add substantially to the army of unemployed.

All of which is proof that Deputy Administrator Hughes knew what he was talking about when, in his closing remarks at the hearing, he declared that the trucking code was one of the most difficult before the National Recovery Administration and required the earnest cooperation of all groups.

• *Presentation of Code*

Presentation of the Trucking Code was made by Ted V. Rodgers, president of the A.T.A. Thereafter each section of the code was presented individually as follows: Purpose and Definitions, by C. O. Sherrill, Cincinnati; Administration, by Wm. G. Fitzpatrick, Detroit; Industrial Relations, by H. C. Mims, Greenville, S. C.; Registration, by E. Foster Moreton, Detroit; Rates and Tariffs, by Robert A. Anderson, St. Louis; Trade Practice Rules, by E. J. Arbour, Hartford, Conn.

Railroads Are Chiselers

(Continued from page 9)

Recently the Federal Coordinator of Transportation issued a questionnaire, the first question of which asked: "Should rail, motor and water transportation enjoy equal opportunities of competition in so far as Federal regulation is concerned?"

My answer is that they should; but that by no means involves subjecting them all to the same regulation, or even similar regulation. Any regulation projected from the idea of maintaining the primacy of the railroads will destroy, not promote, "equal opportunities of competition." In the broad sense, these different modes of transportation are not competitors. The railroad cannot compete for cheapness with water transportation, nor for convenience, personalized service and flexibility with the highways. To make these other forms of transportation conform to the immutable practices of the railroads would destroy their usefulness. The only reason for the railroads urging such a thing is that they have a great deal of money invested in their plant and that investment would suffer if the railroads had to meet *real* competition.

To accept one particular transportation facility as standard and attempt to adjust the rates and practices of others to a program which contemplates the perpetuation of that standard seems to me to raise an unjustifiable bar to progress. Transportation is a most important facility of all business. The business is more important than the particular facility. The railroads have a record of attempting to suppress their competitors as far as possible. That is their object now with respect to the highways. They want to recreate their old monopoly; put their own ships on the seas, their own motor vehicles on the highways, their own planes in the airways and take away, if possible, the pipe lines from the oil companies.

Their only hope of maintaining their bloated capital structure is to get control of all these modes of transportation, to articulate them with the rail system and then make rates for the whole, as they will, to earn returns on the entire top-heavy investment. If the railroads are allowed to continue their present methods of chiseling, such practice—conducted largely with taxpayers' money—inevitably will lead to a restoration of their old monopoly, once again leaving the public to the mercy of the rails.

(Excerpted from address to the Traffic Club, Detroit.)

POST SCRIPTS

Shipper's Liability

WE are interested in learning whether the shipper is jointly responsible for public or personal liability with the contract hauler who is operating under the insurance requirements of the P.U.C.O. of the State of Ohio, and whether or not the liability to the shipper is changed if the hauler has an established route or is a general contract hauler operating under the P.U.C.O. of the State of Ohio.—*The Weaver Motor Co., Dover, Ohio.*

The answer to the above question turns largely upon whether the truckman is an independent contractor or is an agent or a servant of the shipper.

If the truckman is an independent contractor there can be no liability on the part of the shipper.

However, if the truckman is an agent or servant of the shipper the shipper may be held liable for the truckman's negligence.

The difficulty which arises relates not to the statement of these basic principles but to their application to particular situations.

In an Ohio case, a meat packing concern finding its own delivery trucks were being used to capacity employed a truckman to assist for a day. The truckman sent his truck and driver to the meat packing establishment where the truck was loaded and the driver was given instructions as to delivery, routes to be taken, and certain collections which were to be made.

In the course of the day the driver negligently injured a child. Suit was brought against the meat packer, a jury verdict in the sum of $5,000 resulted, which was finally compromised. The court held that the driver had become a servant—though temporary—of the shipper. The thin line which separates the independent contractor situation from the master-servant or principal-agency relationship had been crossed. By directing the driver's movements as to deliveries, the routes to be taken, and the collections to be made, the shipper had placed the driver under its control and he had thereby become the servant of the shippr.

The courts hold that the measure of control determines the status.

If the shipper contracts with a truckman to haul his goods, and merely designates the places of receipt and delivery without controlling the vehicle to be used, the driver, or the route, the relationship is obviously that of an independent contractor. However, as the control increases there comes a time when it shades off into the master-servant or principal-agency relationship. The line of demarcation is not distinct, a few facts may weigh the balance.

Consequently, it is hazardous to dogmatically assert that there is no liability unless every pertinent fact is known.

If the facts constitute, as the subscriber's question indicates, only the somple situation of a contract hauler receiving and delivering goods, there would seem to be no liability on the part of the shipper. The fact that the hauler is operating on an established route or is a general contract hauler strengthens this presumption. But even if the hauler is a common carrier there might be some liability attached to the shipper if the hauler stepped out of the common carrier class and performed certain special operations for the shipper.

The nature of the written or verbal contract and its terms will not govern the determination as to whether the truckman is or is not an independent contractor. The courts will look to the actual situation and it will govern.

The Public Service Commission's insurance requirements cannot alter the fundamental liability of the shipper if the truckman is in fact a servant or an agent of the shipper. However, the shipper's ultimate liability will be cut down to the extent of the truckman's liability insurance provided the shipper is named as an additional interest in that insurance.

If the shipper believes there is a possibility of a construction being placed upon the relationship with the truckman of master-servant or principal-agent he should require the truckman to provide proper liability coverage either by a rider to existing insurance policies or by new policies.

Economic Points

I WOULD say to any one considering Mr. Collins' plan of truck replacement (see May and August issues):

Having found the supposed economic point according to his instructions, where the descending investment value crosses the rising maintenance cost, consult your maintenance department to see if a large sum has been expended on the vehicle, thus causing the imaginary crossing to take place. On the other hand if by trial calculation the crossing has been passed and the vehicle is found to be badly run down, undoubtedly the time for a change has come.

Think of it this way: Insurance Companies by their records tell us when death might be expected. Very wisely they consult medical inspection reports on applicants for risk to judge if the applicant will reach the economic point. With them as with trucks some fall short, others continue useful far beyond the figures. So why halt or continue on account of figures alone?

Will men walk to the graveyard and quit because of them?—*Billie Burgan, Hage's Ice Cream Co., San Diego, Cal.*

A Gold Mine of Sales

AFTER being out of the truck business for two years, I recently signed up with a national truck maker to sell its line of trucks from an agency in a metropolitan area.

In my few weeks of selling effort, I have secured two orders for trucks and delivered them, both of which were very profitable deals, and have lined up eight prospects who have promised to place their orders within the next thirty days.

In analyzing the records of the calls made, the fact which stands out so amazingly is the statement from practically nine out of ten prospects that no truck representative from any company had called on them for months. The two orders secured for new trucks were taken without any competition. So far with the other prospects no competitors have appeared.

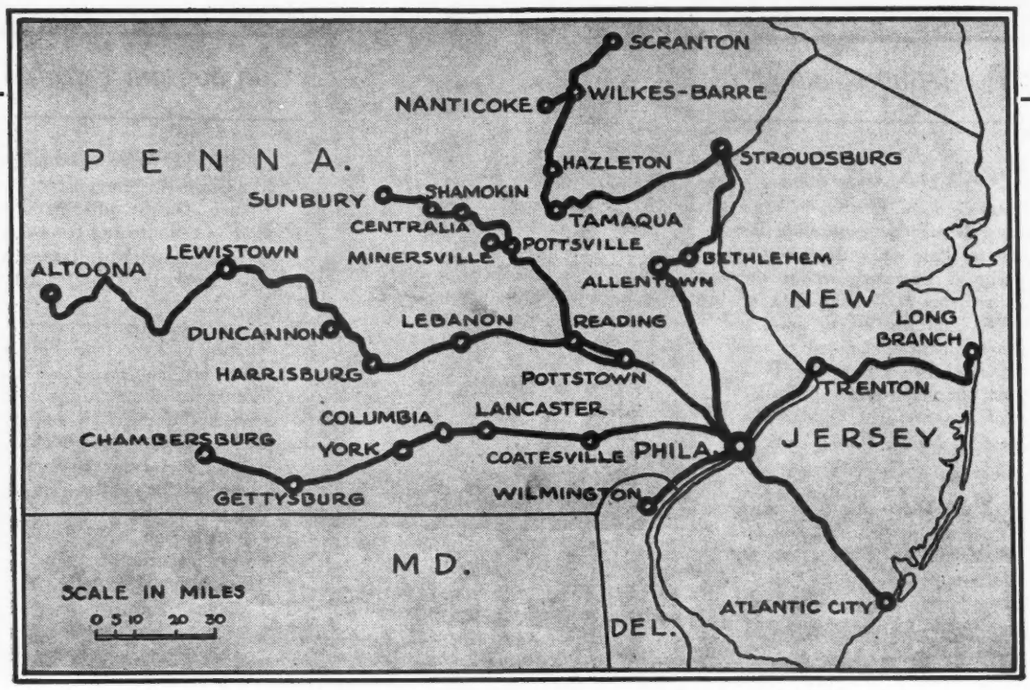
Contrast this with the competition in the past. Why, three or four years ago you never had a prospect to yourself.

In calling on prospects I found that apparently no concentrated effort has been made for some time to get truck business. And by concentrated effort I mean the regular contacting of the truck owner, soliciting his service work, checking up on the operation of his truck, etc.

All of the foregoing statements are based on calls, the majority of which were made on prospects who own one or two trucks. I found in calling on big fleet owners, that they were receiving plenty of attention.

My reception by the smaller prospect was not without its humorous side. Usually the greeting was: "Well, business must be picking up. It's been a long time since I've seen a truck salesman."

I'm telling you salesmen, dealers and manufacturers, there's a regular gold mine of truck sales, ready to be worked, and somebody's going to cash in on it in the next few months. I've already started to get mine. And if you don't believe these statements, just as an experiment, take a day off and go out on a cold canvass and see if you're not all pepped up over the results obtained.—*K. J. B.*



Route map of territory served by the brewers of Black Eagle beer

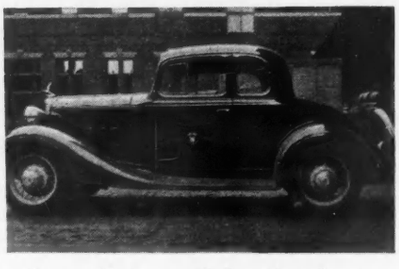
Flexibility of Truck Transportation Meets Changing Brewery Needs

•

DURING the emergency following the legalizing of 3.2 beer and the working out of the problem of distribution over a large metropolitan area and a widespread wholesale set-up trucks met each problem as it arose. How they met the typical problems of breweries is here told in a story dealing with a brewery which now regularly serves a delivery area covering three states.

THE Class & Nachod Brewing Co., Philadelphia, Pa., resuming the brewing of beer in April, 1933, found motor transportation possessed the flexibility required to meet a host of new delivery problems. Many of these problems could not be foreseen because the legalizing of 3.2 beer came about without time for state legislation and the demands of the public to settle the basic question of how beer would be distributed.

Piled upon the emergency of an instantaneous peak demand was the uncertainty about the ultimate method of distributing beer. Beer on draught means delivery in kegs, quarters, halves and barrels. Bottled beer, of course, calls for delivery in cases but how the cases would be distributed to the ultimate consumer was something which no one knew.



Type of car used by 15 salesmen

Motor transportation met the first day rush, it carried on during the transition period and when things settled down to a business basis, it proved its ability to deliver over a wider local area and a greatly extended total delivery area.

Black Eagle beer, produced by the company, is delivered throughout the Philadelphia area by trucks operating directly from the brewery. Tap rooms are served daily, usually halves and a few cases. These deliveries are made by 1½-ton trucks with express bodies which carry approximately 30 halves. These trucks average approximately 40 stops on a trip, making deliveries as required and picking up empties on the way to save time.

Special delivery service is offered between 4 P.M. and 11 P.M. on telephone call. These deliveries are made by light

delivery jobs with pick-up bodies. The Philadelphia area is covered by 15 salesmen travelling in coupes who report to the brewery office once a day. Primary orders for delivery are made up from the salesmen's reports and are copied according to delivery routes on a delivery sheet, one of which is made up for each load.

The wholesale routes, shown on the accompanying map, are laid out to cover cities in which the brewery has local distributors. These routes are served by 5-ton trucks or by a tractor and semi-trailer recently put into service. One of the routes starts at Allentown and extends to Scranton, a second starts at Reading and extends to Sunbury, the third goes from Coatesville to Chambersburg, a fourth from Pottstown to Altoona. The latter point is 190 miles from Philadelphia which indicates how far deliveries may be extended by motor transportation. There is a short wholesale run to Wilmington, Del., where a distributor covers all of the upper end of the state of Delaware. Another short run is to Atlantic City, N. J., which is the main depot for that section. Another short wholesale run is to Trenton, N. J., and a somewhat longer run on the Jersey seacoast is to Long Branch, N. J.

These wholesale routes are supplemented by a net work of truck routes of the distributors in each city and these supply customers at short intervals just as the brewery serves customers in the Philadelphia area.

Deliveries are made over each of the wholesale routes in accordance with orders from the distributors. The demand for beer fluctuates according to the season and particularly according to temperature during the summer season. This makes it necessary to dispatch a truck over a wholesale route on relatively short notice in many instances.

The brewery has its own railroad siding for receiving materials as well as shipping beer and many shipments are made by rail. Boat lines are also used for shipments, particularly to points south of Philadelphia. Trucks are used to haul the boat shipments to the piers.

Motor transportation is furnished to the brewing company by Frank Pitali, hauler, Hammonton, N. J. Equipment assigned to the brewery at the time of writing comprised 4 four-wheel 1½-ton Chevrolet trucks, equipped with helper springs; 1 Chevrolet with extra axle; 2 heavy-duty Reo trucks, 1 Mack and the newest unit a large Fruehauf round-end trailer with a six cylinder Autocar truck tractor.

A roller conveyor extending out of the loading platform speeds up the job of loading

This is the type of heavy-duty unit which is used to take care of long distance hauling

The Issue

IN this article Mr. Stewart defends himself against the objections to oil changing and the whole business of "oil control" raised in the September issue by Mr. Frazer.

- **Mr. Frazer built his arguments on the premise that systematic oil analyses are entirely too costly and that the expense is not justified.**
- **Mr. Stewart undertakes to prove not only that the cost is extremely reasonable but that the benefits far outweigh the cost.**
- **We feel justified in excusing Mr. Stewart's "snacks of self-advertising" on the ground that it should interest fleet readers to know what a good oil inspection service consists of and what its aims are.**

Oil Changing is a Boon Not a Bugaboo and It's Not Costly

BY CLIFFORD R. STEWART
CHEMICAL ENGINEER

I AM firmly convinced that the pages of the COMMERCIAL CAR JOURNAL, aside from the space provided for the purpose, are not intended as a medium of advertising. Therefore, in preparing two lubrication articles for publication *(Arbitrary Crankcase Oil Drain Periods Are Pure Bunk,* June, 1933, and *Operating Variables Cast Their Shadows on an Oil Valve,* July, 1933, I had preeminently in mind this fact and endeavored to present as earnestly as possible, constructive and helpful conclusions based on the data accumulated during approximately 20 years of conscientious effort as a production, refining and research executive in the United States and in several fields abroad, plus the privilege of having available the comparative records of 100,000 crankcase oil samples which have been analyzed in the Faber Petroleum Inspection laboratories. These samples have been secured from the equipment of our customers and this equipment has been of the most varied and doing every type of work.

Further, I have also had hold of the other end of the stick, for it has been my fortune (good or otherwise) to have active charge of fleets of trucks both contract haul and general delivery. I feel qualified because of this to appreciate both sides of any controversial discussion between a marketer or purchaser of crankcase lubricants, gasoline or greases.

Having, as before mentioned, a sincere desire to refrain from exploiting the business of Faber Laboratory Fleet Control upon which I am engaged, in the columns of the COMMERCIAL CAR JOURNAL, I have been unhappily put on the defensive in an article *(Oil Changing is Just a Bugaboo with a Costly Trail, September, 1933,* by Mr. William E. Frazer, who dwells heavily upon "costs of analyses."

I would like to correct several of the incorrect impressions gained by Mr. Frazer and commented on from the viewpoint of misunderstanding in his recent article in COMMERCIAL CAR JOURNAL.

It must be accepted that employing only the most elementary form of reasoning we cannot refute that "the better the condition of the oil in a crankcase as a lubricant, the better should be the type of lubrication obtained." It is natural, therefore, that some effort should be made by all of the parties interested in this function to arrive at means whereby the most of lubricating value may be achieved and maintained. It is unfair on the part of Mr. Frazer to describe such efforts as "high-powered sales arguments" or "salvos of chemical analyses."

I grant that on the part of the "chemical engineer" who makes his effort on behalf of a marketer it is quite a natural thing for him to line up on the side of the fence where his employer's interests are best served. But I submit that it is more than likely, when the noses are counted, the analyst performing his duties for the

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Squeeze-Play

GETTING away from the oil change controversy for a moment, Mr. Frazer here recounts how the fleet with which he is connected effected operating economies after apparently every cost-cutting method had been exhausted.

● Tackling the subject from three angles—Actual Operation, Repair and Maintenance, and Executive Direction—he shows what was done in each of these divisions of fleet operation to further reduce costs.

● Although his company's policy prevents Mr. Frazer from publishing his connection, he has not enjoined us from revealing his address to those readers who would like to correspond with him. Write us for it.

Pinch the Pennies and Presto! Your Fleet Saves Dollars

By William E. Frazer
Fleet Operator

ONE thing the recent depression has taught us is that we can do a lot of things we never thought we could do.

I doubt if there is a man connected with automotive fleet operation who has not heard, particularly during the past two or three years, the old familiar cry: "Cut down your operating costs; shave to the last tenth of a mill."

True, this cry put a lot of people on the spot. But it was doubtless as surprising to the fleet managers as it was to their superiors, how much operating costs could be reduced once they were attacked with a razor-edged axe. The aim of this article is to show what we did in our fleet to shave costs to the last tenth of a mill.

Now, any discussion of how to reduce automotive fleet operating costs, has to be pinned down somewhere to certain definite basics which can be generally applied from Maine to California. Because Jones in Minnesota has succeeded in putting his light pickups over the road for 4 cents a mile flat, we can't expect Brown in Arizona to match Jones. But we can show how Jones reached the 4-cent from a previous 5½-cent mark, which same procedures, altered to suit local conditions, will lower Brown's costs to a probable 4½ or 5 or 5½ from 6 or 6½.

So, tacking the subject down to secure foundations, we can broadly divide automotive fleet operation, in so far as we are concerned with the cost element, into three divisions:

(a) Actual operation, or movement of vehicles.

(b) Repair and maintenance.

(c) Executive direction.

It must be kept firmly in mind that we are to consider in this discussion only one basic unit of cost—i. e., the cheapest cost per mile travelled. The units of cost per ton mile, cost per package delivered, cost per route customer, etc., involve too many items over which the fleet executives have little or no influence to be considered here.

● *Actual Operation*

Taking up first the economies to be made in the first division of our fleet operations, we find that our most important item of expense in operation of vehicles is fuel. So let's tackle the fuel question and see what can be done about it.

The most recent, most revolutionary, and perhaps the most beneficial instrument to aid us in this study is the Exhaust Gas Analyzer. This instrument, properly used, will indicate the loss of many valuable gallons of fuel, and if the results of the analysis are followed up, big economies are mined right here. Recently tests of 45 vehicles of various types indicated that a majority needed a complete motor tune-up. This was a surprise, because according to the best previous methods we had of determination, we really did keep them in good shape.

We found that carburetors were far too richly adjusted. Ignition troubles played a large part in the troubles discovered, as did improperly adjusted

valves. We kept close record of these vehicles, and the following month we could hear the pennies commence to tinkle back into the till. The result of our corrective work after this analysis of the 45 vehicles was that we obtained an average of 0.6 mile per gallon more per vehicle than before.

Another instrument which leads to fuel savings is the governor, although its use has been somewhat controversial. However, we continue to equip new light vehicles with governors, because they do prevent uneconomical speeds, and proper driver-training will greatly reduce the alleged accident hazard involved. The range of economic speed seems to be from 20 to 35 miles per hour, beyond which, fuel consumption increases rapidly. It follows, then, that it is dollar-wise to control speeds to the most economical figure consistent with local operating requirements.

Where transportation executives have control, a closer routing of trips is a big gasoline saver. We provide drivers with distance maps, and require them to take the shortest possible route, and to know exactly where they are going when they start out.

The servicing of cars at the filling station provides a situation in which waste can take its toll via the "slop-over." The pint or two slopped over seems like a small amount, but where the fleet is large, the total will run into large figures over a course of months. The trigger-type hose nozzle gives the service men instant control when filling tanks, and is a big fuel saver.

● *Watch the Loads Carried*

Overloading also increases fuel consumption, and every operator should carefully watch the loads carried in order to limit this evil. All too often overloading of light-work vehicles is due to lack of knowledge on the part of the driver as to permissible maximum load. To overcome this we have installed plates on the dash-boards containing, among other things, the maximum load in pounds that can be carried.

Many gallons of fuel are lost annually through excessive idling, and we have laid down a positive rule that motors must be shut off and not permitted to run idle when vehicles are not in motion, not only to save fuel, but to assure correct lubrication.

Tire expense, even though tires are very cheap, occupies a prominent place in the cost reports, and can be controlled greatly by a little care. Regular brake inspection to assure equalization at all times is a good tire-saving practice. Pressures should be accurately maintained to meet the loads carried, and actual gage tests should be made semi-weekly for light and medium work vehicles, and daily for heavy duty trucks. A regular schedule of wheel alignment check should be adopted, based on the monthly mileage of vehicles and the territory in which the vehicles work, and the type of work. With duals, we use the new pressure equalizers which serve to prevent undue wear and strain on one of each set of dual tires.

● *Governors Save Money*

The use of governors on light work vehicles has also brought us economy in the tire column. Rear tires removed are giving better mileages, wear seems to be more even instead of spotty as heretofore. High speeds, requiring sudden braking in emergencies, impose severe strain on tires, which the governor helps to eliminate. Wheel spinning is also prevented on the getaway.

Probably one of the most difficult elements the fleet operator is confronted with in actual operation is driver personnel. This subject requires a lot of careful study. Particularly where many of the fleet vehicles are operated by men whose major duties consist of work which requires vehicles merely as a means of transportation, rather than drivers who operate freight, package or passenger carriers.

However, a policy of cooperating with the department heads of the various drivers has been adopted in the fleet with which this writer works, and we have found that it pays dividends. Out of about 175 operating vehicles, not over five or six are driven by employees directly controlled by our own department. All the rest are members of some other department of our company, and we reach them through their department heads, and by general bulletins approved by staff executives.

We found, for instance, that upholstery repairs were mounting in a large group of our light vehicles. This was because the drivers invariably carried pliers and small wrenches in their hip pockets. We designed a mimeographed form covering this and other items of damage to vehicles caused by drivers, which our mechanics filled out when such damage as badly scratched paint, broken mirrors, damaged upholstery, etc., was found. This form is turned in to the shop foreman, who approves it and forwards it to the superintendent. From there it is forwarded to the vehicle driver's department head, who either sends it along to the driver with some pertinent remarks, or calls him on the carpet. We've noticed a fine improvement with consequent lowering of such repair costs.

For the benefit of drivers, the cab of each vehicle carries a small brass plate, containing such information as maximum load in pounds to be carried on the vehicle, tire pressures to be maintained in front and rear tires, etc. The plate is constantly before the driver's eyes, and he soon becomes familiar with the data.

Broken or cross-country driving has brought its share of grief to our cost records, and it is frequently necessary to issue severe warnings to drivers on this subject. We issue instructions warning drivers to exercise utmost care when forced to operate under any but normal road conditions. Investigations always develop that there is little or no excuse for broken crankcases or flywheel housings or differential housing.

In our studies of the human element we have found that the accident situation provides the most room for improvement, and in the past year we have succeeded in keeping accidents down, in point of cost, to a very satisfying figure. Each operator should be given a copy of the State Vehicle Act and the local ordinances, and required to become familiar with these laws. But it is necessary to go a step farther. It has been proved time and again that, although our driver has been legally faultless, he could have avoided the collision by exercising a bit more care or courtesy. After all, it is the actual avoidance of collisions which aids our cost records. The mere fact that our drivers were within their legal rights does not obviate the fact that damage has occurred which necessitates repair expense.

● *Repair and Maintenance*

In the Maintenance and Repair Division of our subject, we find considerable meat for discussion, and always there seems to be room for little improvement, no matter how well we seem to have the shop running. Of course, the first necessity is the employment of the most skilled and efficient workmen obtainable, and providing these men with the proper shop tools and equipment.

One time-reducer, we have found, is adequate lighting of repair pits. We do not use the old drop-cord method for pit work, but instead have installed lights in recesses in the pit walls, with good reflectors, which light up the entire under side of vehicles. In addition, pit walls are painted white and are kept clean. The saving in time here is considerable.

Many dollars fly out the window through improper scrapping of parts, and we make a constant check on salvage work to make certain that we are overlooking no bets. For instance, we save many engine blocks by the use of sleeves for cracked or badly scored piston walls; we refinish oversize cast iron pistons to smaller sizes; we rebuild

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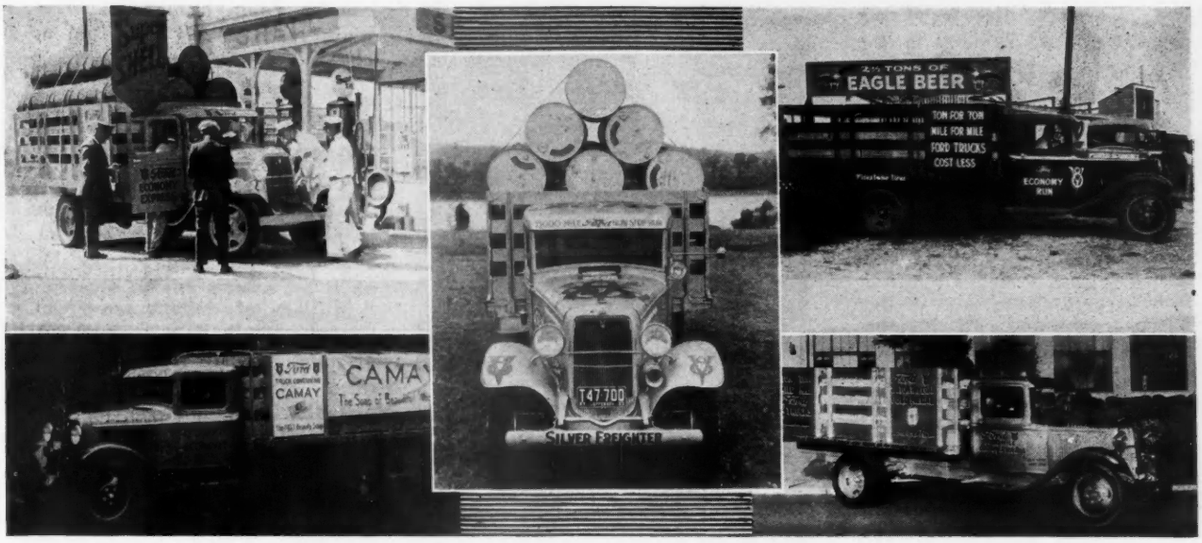


Regional Truck Economy Tests Support Engineering Progress

KNOWING that fleet men are always interested in operating facts the COMMERCIAL CAR JOURNAL undertook the task of collecting from all parts of the United States the results of the "economy runs" conducted recently by the Ford Motor Co. with its V-8-engined truck.

The managers of 20 branches cooperated with this publication by submitting the results of the runs held in their areas. These results are tabulated on the next page and speak rather eloquently for themselves. It would seem that they prove conclusively the inaccuracy of the popular fallacy that any increase in the number of cylinders in an engine results automatically in decreased operating economies.

In this respect the results are important from a broad truck industry standpoint. They tend to disprove the belief of many fleet operators that the surest way to lower operating costs is to go back to the old four-cylinder engine. They offer proof that in serving the god of progress automotive engineers are not forgetting that the constant aim must be lower and lower operating costs.

It was this thought that prompted the compilation of the regional economy run results.

The regional results naturally make available national average figures. These indicate that a standard Ford V-8-engined 1½-ton truck carrying a payload of approximately 5000 lb. will, in 5000 miles of travel over routes having variable operating conditions, average 12.2 miles per gallon of gasoline at an average speed of 34 miles per hour, and will consume an average of 3.86 quarts of oil.

That this national average of 12.2 miles per gallon of gasoline for an eight-cylinder engine represents an economy over the Ford four is sub-

The Results of the Regional Economy Runs

Operating Center	Payload Carried (lb.)	Miles Traveled	Aver. MPH	Aver. Miles per Gal. Gas	Total Oil Received (Qts.)	Oil Drainage Period (Miles)	Oil Added (Qts.)	Oil Consumed (Qts.)
Alexandria, Va.	3855	5402	28	16.2	30	1000	0	1.93
Atlanta, Ga.	5000	5004	30	12.6	25	1000	0	1.00
Chester, Pa.	5000	5225	37	10.8	25	1000	0	nr
Chicago, Ill.	5570	5004	31	12.4	25	1000	0	nr
Cincinnati, O.	5000	5078	nr	11.9	20	1500	0	nr
Dallas, Tex.	5000	5054	40	11.1	30	1000	0	nr
Denver, Colo.	4100	5262	34	11.8	25	1000	0	nr
Des Moines, Ia.	5000	5002	nr	12.1	35	1000	0	7.00
Indianapolis, Ind.	5080	5071	40	11.5	25	1150	0	2.90
Jacksonville, Fla.	5000	5023	nr	12.8	25	1000	0	nr
Kansas City, Mo.	5000	5498	34	12.7	nr	nr	nr	7.00
Louisville, Ky.	5000	5012	35	11.5	30	1000	0	nr
New Orleans, La.	5000	5013	37	11.5	20	nr	0	nr
Omaha, Neb.	5000	5000	nr	12.7	25	1100	0	1.70
Pittsburgh, Pa.	5000	5022	40	11.5	nr	1000	7	7.00
Richmond, Cal.	5000	5014	†25	11.5	25	1050	0	6.50
St. Paul, Minn.	5000	5065	40	14.2	25	1000	0	2.00
Salt Lake City	5000	5009	30	11.7	30	1000	0	2.25
Seattle, Wash.	5045	5006	nr	13.0	29	1000	4	4.00
Somervlile, Mass.	5000	5089	nr	11.6	nr	nr	nr	3.25
National Average	4932	5092	34	12.2	26	....	..	3.86

nr—not reported. †—in city traffic large percentage of each day.

stantiated by comparative tests conducted under A.A.A. auspices in the Cleveland area. In 17 tests the eight averaged 12.8 m.p.g. and the four averaged 11.8 m.p.g., a margin of one mile per gallon in favor of the multi-cylinder engine. The worst showing of the eight was 11.1 m.p.g., which occurred in hilly country, and the best was 14.4 m.p.g. The four's worst was 9.6 and its best, 13.1.

In these 17 comparative tests two 157-in. stake trucks, one with an eight-cylinder engine and the other with a four-cylinder, were loaded with 2½ tons of iron. Axle gears and tires were alike. The gross load of the eight was 9680 lb. and of the four, 200 lb. less.

In each of the regional economy runs a stock 1½-ton V-8 truck with a 157-in. wheelbase was used. A stake body was mounted on this and, with only two exceptions, a payload of not less than 5000 lb. was carried. This was a one-ton or 66 per cent overload. This payload was carried constantly over routes which in no instance totaled less than 5000 miles. It was not a diminishing load and there was no coming back empty. The 5000-lb. payload resulted in an average gross vehicle weight of close to 10,000 lb.

● *National Average 12.2 m.p.g.*

While the national average was 12.2 miles per gallon of gasoline at an average speed of 34 m.p.h., the regional averages ranged all the way from 10.8 m.p.g. at 37 m.p.h. to 16.2 m.p.g. at 28 m.p.h.

The record average of 16.2 m.p.g. was made in the Alexandria, Va., run which covered the Washington-Baltimore-Richmond area. The payload carried was only 3855 lb., or just about 30 per cent over the rated capacity. The run, according to the report, was conducted with expert supervision and encountered heavy rains, strong head winds and heavy street and road traffic. Every drop of gasoline and oil was weighed by A.A.A. officials using scales having official approval of the U. S. Bureau of Standards. The truck was sealed in 13 places to prevent all possibility of tampering.

The showing of 10.8 m.p.g. was recorded in the Philadelphia area. Operating out of Chester, Pa., the truck traveled three routes to the East, North and West of Philadelphia every 24 hours. These routes covered city traffic conditions and mountainous, level and rolling country roads. During four of the 10 days of the run it rained. Those in charge of the run attempted to duplicate actual operating conditions as greatly as possible. They even leaned backward in the matter of drivers. Not one of the three

Keeping the record straight

men used was an experienced truck operator. All three were taken out of the Chester branch and two of them had to be instructed in the handling of the truck.

The oil consumption records of the regional runs present variations which cannot be accounted for by an analysis of the records alone. Crankcases were systematically drained, mostly at 1000-mile periods, and in very few instances was it necessary to add oil between changes. Twelve operating centers reported oil consumption, and the reports ranged from 1 qt. in the Atlanta region to 7 qt. in the Des Moines, Kansas City and Pittsburgh regions. The cause for increased consumption cannot be laid to speed because Pittsburgh's experience with an average of 40 m.p.h. is way off when compared with St. Paul and Indianapolis which also averaged 40 m.p.h. but which only consumed 2 qt. and 2.9 qt. respectively. And there's no comparing Pittsburgh's 7 qt. with Richmond, Cal.'s 6.5 qt. because while their consumption was practically the same they were far apart on miles per hour, Pittsburgh averaging 40 as against Richmond's 25.

Of course a wide variety of brands of oils was used in the 20 regions which reported and there was a difference, too, in the operating conditions encountered, but these being unknown factors an acceptable analysis of the variations in consumption is not possible. It is quite evident, however, that the national average oil consumption of 3.86 qt. is more than satisfactory for a vehicle of approximately 10,000 lb. gross weight traveling 5000 miles at an average speed of 34 m.p.h.

Mechanically the economy runs left nothing to be desired. Not one breakdown was reported. No repairs were necessary during any of the 5000-mile tests. After completing 5225 miles the Chester entry's engine was torn down and revealed no appreciable wear on bearings, cylinder walls or reciprocating parts. Although the Pittsburgh entry covered 385 miles daily over mountainous Pennsylvania and West Virginia roads in fog and rain no mechanical adjustments were necessary.

Commercial Leasing and the Viewpoints Involved

(CONTINUED FROM PAGE 19)

3. THE TRUCK MANUFACTURER

Millions of dollars are spent and wasted annually by customers' purchase of miles. There is *nothing* to guide them. Naturally they lean toward a plan that guarantees the unknown for them. Only one large manufacturer has seen the light in this respect.

A source of constant wonder exists as to the lack of foresight in the failure of commercial manufacturers to prepare maintenance cost figures for sales purposes rather than technical terms of truck construction that can only be understood by engineers and trained transportation purchasing agents. The prospect is interested in the lowest cost per mile of a truck within a certain price range and in *cost per mile only*. He is buying *miles not trucks*. This is readily proved by the ease of switching a customer from a fleet of the make or makes he previously operated to the make the Lessor desires to place.

● *The Big Opportunity*

Commercial Leasing guarantees and fixes the Lessee's cost, and he ceases to buy a particular truck even if he has always used a certain make.

The truck manufacturer who sees this first, and will sell fleet operators *miles* and not trucks through Commercial Leasing, will go far toward covering the small fleet market. It also eliminates the stumbling block of capital outlay for whole fleets and means a fleet sale in its entirety instead of a sale of a new truck or two.

One of the largest truck manufacturers refused to guarantee maintenance costs on his trucks. Why, with the billions of miles delivered by his trucks? Because of the identical fault that obtains with the average truck operator—the lack of proper records and the difficulty of segregating costs. Time after time representatives of the largest manufacturers have requested from us "the cost per mile" on the operation of a certain make or model of truck in different lines of work. Knowledge is certainly power in the sale of miles and the possibility of switching prospects from one truck to another through Commercial Leasing guaranteed rates is tremendous.

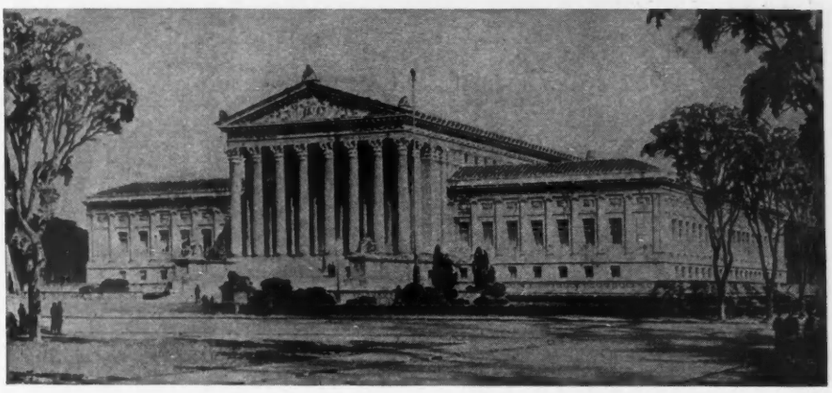
4. THE SALES AGENCY

The Commercial Leasing plan offers

(TURN TO PAGE 56, PLEASE)

FREE TO READERS

Commercial Car Journal will be glad to procure expert legal advice for any reader who is faced with a legal problem involving a motor truck. There is no charge for this service. Inquiries made in confidence will be so honored. Just address your letters to The Editor. For a sample of the service see item on page 20 headed "Shipper's Liability."



Architect's drawing of U. S. Supreme Court Building, Washington, D. C.

Court Decisions Handed Down in Truck Cases

Auxiliary Tank Law Out

IN a recent decision on the auxiliary gasoline tank law, enacted by the 1933 Florida Legislature, the Florida Supreme Court upheld the decision of Judge Daniel A. Simmons of the Circuit Court and declared the law unconstitutional.

Court Injunction Upheld

Warehouse Distributing Corp. et al. v. Dixon, Appellate Court of Indiana in Banc.

THE circuit court's granting of an injunction to an operator of motor vehicles holding a certificate of convenience and necessity against other persons allegedly conspiring to injure his business by operating illegally in the territory served by the certificate holder was upheld by the appellate court, notwithstanding the matter had not been submitted to and finally adjudicated by the Public Service Commission. The court holds that the Public Service Commission is an administrative body having exclusive jurisdiction in matters which are purely administrative. In this instance the Public Service Commission would have been required to have prayed an injunction in the courts to restrain violation of an order which it might have issued against the so-called conspiring competitor. The court further holds that the right to pray for an injunction is not limited to the Commission but is expressly given to any person having a special interest in the enforcement of an order.

Freight Procurer's Liability

Fisher Body Co. v. Wade, Court of Appeals of Ohio, Huron Co.

WHERE person holding contract for hauling of goods for a factory employed truckman for hauling particular loads truckman being free after having made the trip to do as he pleased and being subjected to no more control than that he was required to pick the goods up at one place and deliver them at another, the route he took not being fixed for him nor the time except that he received a bonus of $5 if the goods were delivered within a certain time, the $5 being deducted if they were not delivered at the specified time, the trucker was held to be an independent contractor and not an employee or servant and the freight procurer was not liable under the Workmen's Compensatiton Law for the death of the truckman's driver.

Leasing Is Not For-Hire

Bevard v. Gaughman, Circuit Court No. 2 of Baltimore City, Md.

THE law classifying those using the highway in the carrying of freight for hire in one group and those carrying their own merchandise in another is constitutional, the classification being germane to police power and having direct relation to the regulatiton of the use of the highways. A lessor who leases his automobile without reserving the right to control or direct its operation is not engaged in a for-hire operation. A concern collecting refuse within a city is not engaged in a for-hire operation, as when it collects the refuse, the refuse becomes the property of the collector. The collector is therefore hauling his own property and does not come under the for-hire classification.

Forwarder Is Private Carrier

Northwest Tablet Co. v. Universal Carloading & Distributing Co., Supreme Court of Minnesota

THE Supreme Court held that a forwarding agent is a private and not a common carrier.

Compensation Law Applies

Plourde v. Auclair, Supreme Court of New Hampshire

A MOTOR truck is a "power driven machine" within the meaning of the Workmen's Compensation Act and a truck operator may recover compensation under that law for injuries sustained.

Trucking Is Not Hazardous

Jones and Spicer et al. v. McDonnell et al. Supreme Court of Oklahoma

A CLASS "B" motor carrier was held not to be engaged within the classification of hazardous industries and business enterprises covered by the Workmen's Compensation Law. Further, the clause "transfer and storage" does not include a transfer business unless it is operated in connection with a storage business.

Negligence Up to Jury

Henry S. Liebovitz & Sons, Inc., Supreme Court of Pennsylvania

WHETHER truck which stopped on highway to aid stranded motorist and, while pulling the motorist's automobile back onto the highway, crossed the center of the highway in a diagonal position, was liable for injuries sustained by motorist approaching from opposite direction held a question of fact for the jury and was not as a matter of law in violation of statutes forbidding leaving a vehicle standing on highway unless not less than 15 feet opposite vehicle be left open.

Grandfather Clause Rights

Hostetter v. Public Service Commission, Superior Court of Pennsylvania

THE Commission must allow a person the full facilities which he was employing in transportation prior to enactment of the Regulatory Law. The order in this case should have included an allowance of an equivalent for the capacity of the horse-drawn vehicles and leased trucks which were in use by the applicant prior to the enactment of the Regulatory Law.

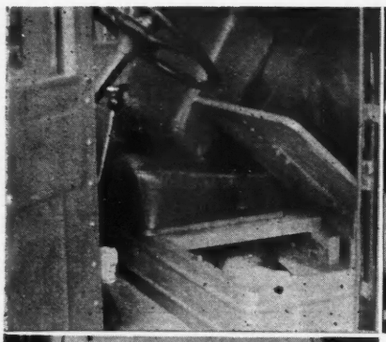
Non-Resident Privilege

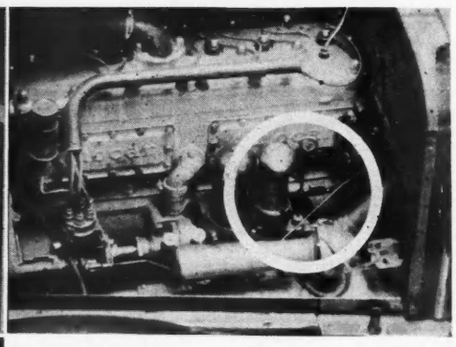
Sobeck et al v. Koellmer, New York Supreme Court, App. Div.

A NON-RESIDENT has the same privilege as a resident in instituting actions arising from the operation of a motor vehicle in this state by the special form of substituted service of the summons as provided in section 52, Vehicle & Traffic Law.

Using the Special Truck

By Billie Burgan, Fleet





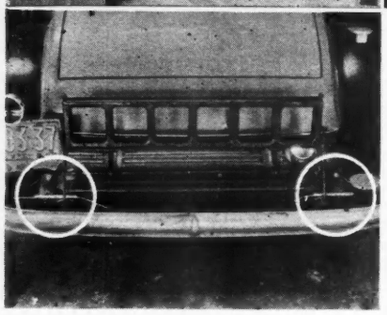


Fig. 1 (left top). Battery accessibility

Fig. 2 (above). Oil gage extension

Fig. 3. Welding bumpers

● With this practical article Mr. Burgan begins an entirely new series dealing with the welding torch. In previous articles Mr. Burgan gave valuable examples of how to salvage or reclaim parts. In this and succeeding articles he shows how the welding torch can be used in the making of new things, designed to make work easier and truck ownership less costly. Mr. Burgan is an expert welder and his advice is available to readers.

● *Battery Accessibility*

WHEN two cushions rest on a single hinged base as in the Model A Autocar, access to the battery is far from easy. We cut the base in half, weld ¾-in. lips to the cut ends, install a two-piece center rest of 2 x 4 in. bolted together and to the front top lip of seat box. Fig. 1.

A 16-in. S hook of ¼-in. rod inserted in the base dowel holes and hooked over the back cushion holds up the base for battery changes and similar jobs.

The night after this change was made on one truck the lights went out and the engine died. Fortunately, we had explained the battery location to the driver who hooked up the base and with flashlight found and tightened the loose terminal and drove on. That one incident paid for the change, to say nothing of time saved each week on service.

● *Oil Gage Extension*

A handy eye ring extension fashioned of ¼-in. rod added to the oil level bayonet brought forth approval equal to that for the seat division. Fig. 2.

● *Welding Bumpers*

A butt joint weld is all but impossible, however, the pieces can be successfully joined with a reinforcing patch of either soft steel or spring steel and welded with oxyacetylene.

Hold patch and pieces in a heavy vise with ⅜ in. extending above the jaws. Weld the edges projecting above the vise jaws and after the weld turns black turn it over and do the other edge. By this proceeding vise jaws serve as a radiator, dissipating the heat sufficiently to preserve the temper. It is unnecessary to weld patch ends.

The welds are shown chalked at frame ends. Fig. 3.

● *Converting a Coupe*

Following a decision to have one of our salesmen do decorating for a season, we were confronted with the need for a semi-commercial type vehicle. Buying an extra decorating car to haul 350 lb. of decorating materials seemed unreasonable, especially when the salesman was willing to do the decorating and use his own car. He was willing to have his coupe rebuilt to suit, but that, too, besides being expensive, could not be changed bask so easy after the season was past.

We answered the problem by building supports and tray to carry the trunk shown in Figs. 4 and 5. Two ⅜-inch cap screws in the cross frame over the gas tank and two more in cross frame at rear of tank supporting the bumpers were used to hold a pair of supports as in Fig. 5. A piece of welding rod bent to shape served as a pattern to fashion them right and left.

An angle iron tray, made to fit the specially built trunk, bolted to the supports, filled the bill nicely. Supports are of ½ x 1½ in. soft steel and the tray is 1½ x 1½ x ⅛ in. angle iron.

These shapes can be attained much easier than by forge by using the torch because you can direct the heat accurately on the intended bend. The rig

Fig. 4. Converting a coupe

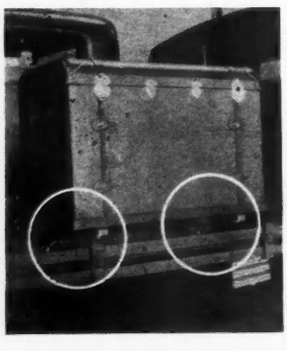


Fig. 5. Supports for conversion

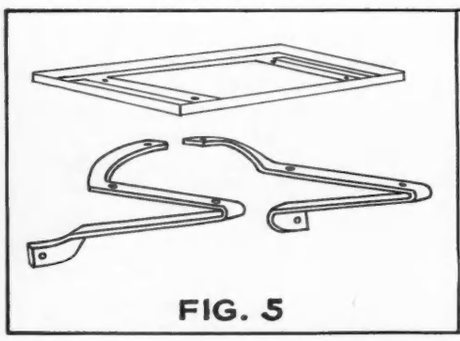


FIG. 5

Fig. 6. More load space

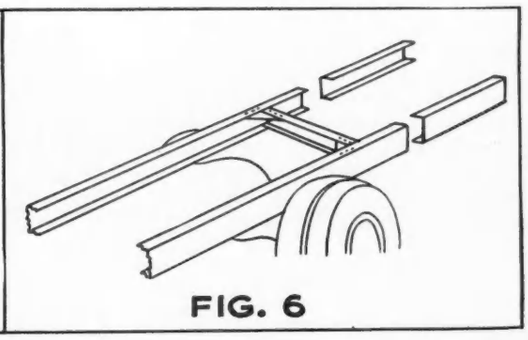


FIG. 6

Welding Torch to Fill Needs Helps Reduce Operating Costs

SUPERINTENDENT, HAGE'S ICE CREAM CO., SAN DIEGO

cost $50 less than any other method and it can be removed or transferred to another car.

• *More Load Space*

We were about to buy a new truck and needed more load space than standard. The rear axle could be set back at the factory increasing the wheel-base five inches at no extra cost to us, but if the next longer frame was put in, it would cost $100 additional. We needed 22-in. longer side rails to balance the load. We bought the set back axle, the standard frame length and added the stubs with the torch. Fig. 6.

Frame stubs cost us $1.50, leaving $98.50 depression bucks as profit.

• *Bearing Puller*

One of our trucks with a Knight engine developed a peculiar hit-and-miss action with a very bad knock. Examination revealed a broken sleeve lug and a camshaft bent between third and fourth cylinders. The case was unharmed but the camshaft could not be removed because of the bend in it. We thrust in the cutting torch and sliced it—causing a quick exit. To impede matters still further, the bend end of the camshaft had rubbed and spoiled the rear bearing and it seemed everlastingly stuck in the case. The problem resolved itself into one of two courses: to pull down clutch and transmission, or to pull that bearing from the front. Arranging material sizes in mind that would fit the space, resulted in the making by torch of the puller charted in Fig. 4.

The shell was made of a 4½-in. section of 3-in. pipe. The puller jaws are fashioned of 2¾ in. of 1½-in. pipe cut as shown and ½ in. of a 1½-in. pipe coupling and the cross pieces are ¼ x ¼ x 2¾ in. soft steel. Assemble the pipe, pipe coupling and the soft steel pieces into position and weld at both ends and cut apart with the torch and then dress the rough places. The eye is shaped of ⅜-in. rod with the end welded down and the ⅜-in. key welded on the end.

To use insert one jaw, then the other and slide the eye bolt between them. Then put in cap screw for a pin, place the 3-in. pipe sleeve, then the cover which is a piece of ⅜-in. soft steel and put on pressure with the nut.

It took 1½ hours to plan and make the puller and 10 minutes to pull the bearing. Pit that against the clutch job and I think you'll agree the torch is ahead.

• *Fan Pulley Nut*

The crankshaft fan belt pulley nut on a Willys Six 1½ tonner figured in three service problems. The hand crank pin worked out, struck the cross frame and cracked the nut, which must be unscrewed to renew the belt pulleys. Replacing the broken nut can be a twenty minute job or run into hours depending on the course used. The torch way, the twenty-minute way, is to enlarge the hand crank hole in the cross frame lip nearest the nut enough to pass the nut through it. This is done from underneath with cutting torch. Once the nut is out, weld it up with a new pin and it will never bother again.

• *Welding a Rim Latch Rivet*

After cleaning the latch and rivet, set into position with the rivet head resting on the vice and weld rivet to the rim and add stock when necessary. Fig. 8.

• *Efficient Torch Lighting*

Shoot a light with gas, tip, and gun aimed the same direction. It will save both seconds and flints. Fig. 9.

Fig. 7. Bearing puller

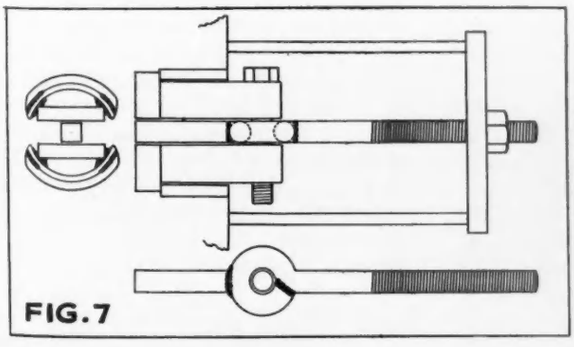


Fig. 8. Welding a rim latch rivet

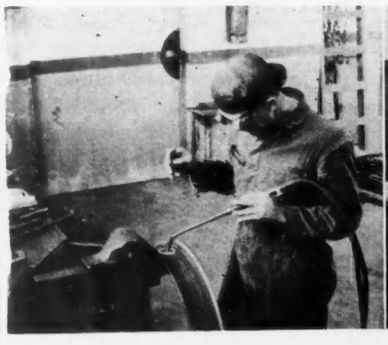
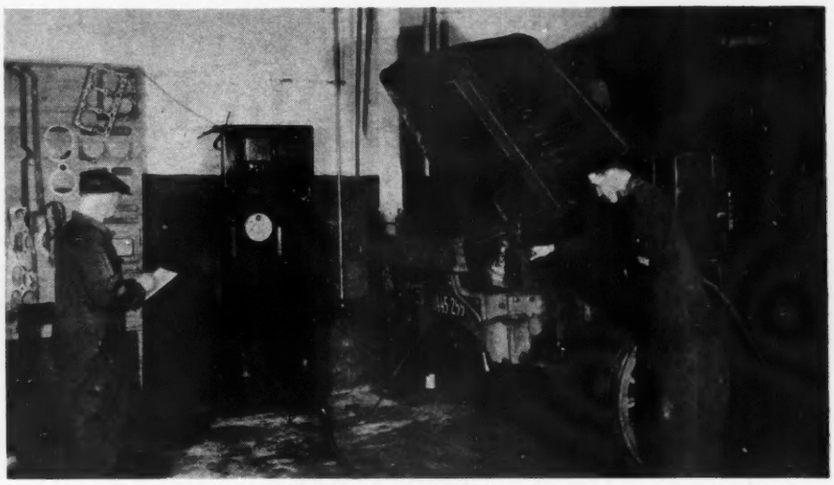


Fig. 9. Efficient torch lighting



The stationary power prover spots what's wrong and checks what's right

Tune-Ups Done in Pep Engines to

THE term "tune engine" is quite generally used by truck maintenance men, but they do not all mean exactly the same thing when they use it. Some would as soon go to church without a necktie as to omit tightening the fan belt when tuning an engine; some tune engines without even looking at the fuel line strainer, while others like to measure fuel economy at the conclusion of the work.

Curiosity suggested a look at the dictionary and we found one of the definitions of "to tune" given as "to put into a proper state or disposition." The lexicographer (trust a word expert to find a long title for himself) probably was thinking in musical terms, but his definition will serve very well for truck engine tune-ups. "To put into a proper state" is just the purpose of all engine tune-ups.

Tuning a musical instrument and tuning a truck engine may seem far apart, but the two have much in common. When a musical instrument is tuned it is brought into harmony with some standard pitch, as a violin is tuned to the accompanying piano, or a chorus uses a pitch pipe. There is a standard of pitch to which all instruments are brought into accord.

Present-day tune-ups are even more like musical tuning than those of a few years ago because the standards are better established and the methods of checking the deviation from standard are more accurate and more readily available. As a man of wide experience in the field expressed, "The old-fashioned tune-up was all right; we still use it and nothing can take its place, but we have instruments now which give us more positive results."

Four types of instruments enable mechanics to maintain standards for engine tune-ups. The four are: ignition testers, compression gages, vacuum gages and exhaust gas analyzers. Equipped with these instruments, a mechanic can check each of the major operations of an engine tune-up and then check the entire operation.

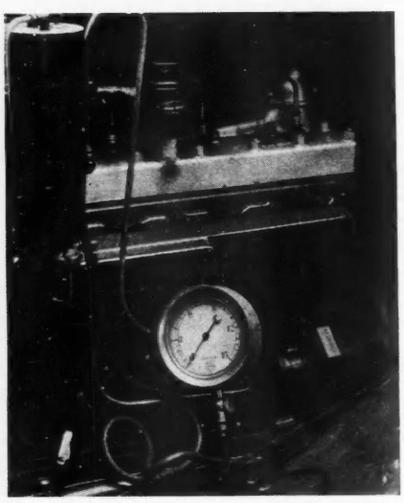
Because the instruments are precise and accurate, they detect even small deviations from a standard of efficiency and it is possible for an over-zealous mechanic to overdo the engine tune-up. No one advocates slip-shod maintenance of truck engines, but there is a point somewhat less than perfection and a whole lot more than just getting by which represents economic operation. Skilled mechanics and maintenance men find out at what intervals checks must be made to keep a given engine up to the pre-determined economic state of efficiency and they schedule tests at intervals which will prevent the engine going bad before it is checked.

Cleaning spark plugs and adjusting gaps to proper standards is a fundamental operation and it is first in many

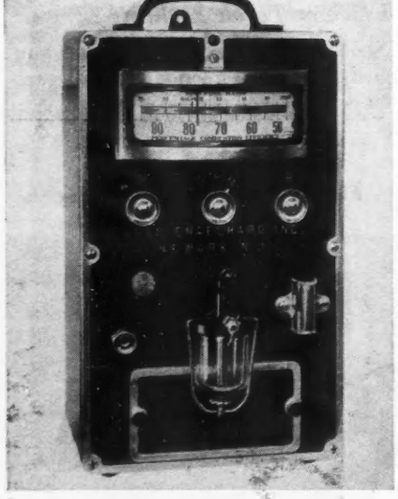
The Modern Tune-up

THE complete modern engine tune-up includes all of the factors which affect performance of the engine.

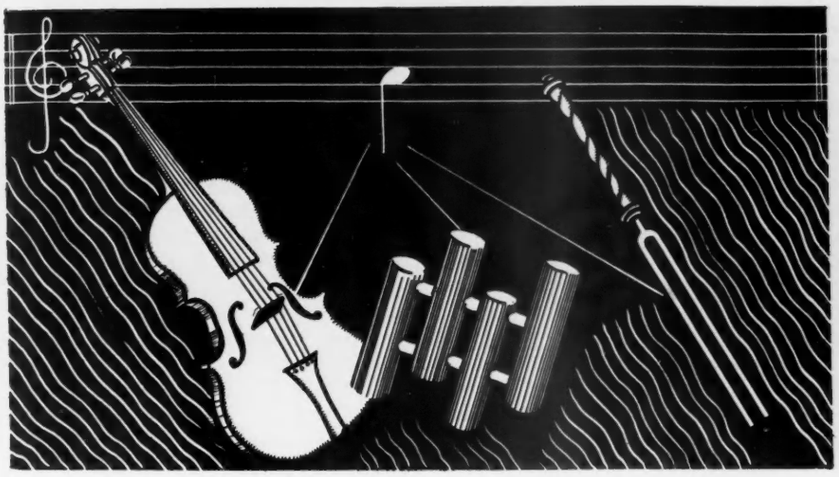
- **1. Clean plugs and set gaps to proper standards.**
- **2. Check ignition cables and battery leaves.**
- **3. Check breaker points and set gap.**
- **4. Check spark timing.**
- **5. Check valve tappet clearance.**
- **6. Check carburetor and service air cleaner, if any.**
- **7. Check compression of each cylinder by compression gauge.**
- **8. Check engine performance by vacuum gauge.**
- **9. Make final check-up of the tune-up by exhaust gas analysis.**

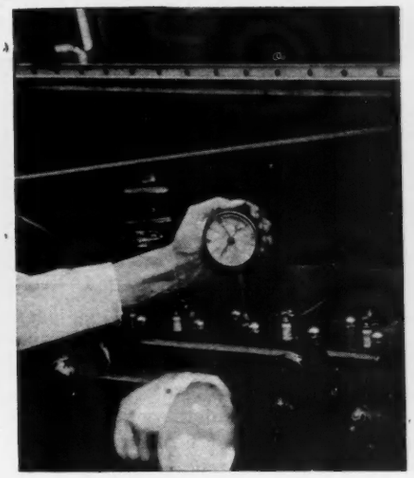


The vacuum gage checks leaks in the intake system and valve action



The exhaust gas analyzer gives a scientific check on the entire tune-up





Compression gage detects valve leaks

By James W. Cottrell, Technical Editor

the Modern Way Perfect Pitch

tune-ups. Breaker points follow quite logically in second place. It is really quite surprising to those who put these two operations on a definite schedule to find what a marked improvement in performance results from periodic attention to plugs and breaker points. With plugs and points okay, it is desirable to check the coil and condenser and many of the ignition tests, including the portable type, include tests of these two important units.

The old idea that any ignition system could be set while on top dead center with spark retarded does not apply to modern engines with automatic spark advance, in some cases supplemented by vacuum controls. The simplest test of timing is made with a six-volt lamp in series with the breaker points. A later development is an adaptation of the stroboscope in which a high-tension current passing through a special lamp makes moving objects appear stationary. Directed at the timing marks on the flywheel of an engine, the light makes the ignition timing mark appear stationary and its position ahead of, alongside of, or behind the pointer indicates an early, on time, or late spark.

One of the essentials of perfect tuning of an engine is that each of the cylinders be in harmony. What a double breaker arm type distributor which is improperly synchronized can do to the operation of an engine is just too bad. The modern engine tune includes a check of ignition timing and of the compression in each cylinder. Uniformly good compression in all cylinders denotes excellent condition.

A compression gauge will detect a leaky valve very quickly. Provided the valves are good but there is a loss in compression, the skilled mechanic will look to the seal between piston and cylinder walls. An easy way to eliminate this possibility of trouble is to put some heavy oil on top of the pistons, thus providing a temporary seal supplementing that of the ring.

The vacuum gauge has made rapid strides in popularity in the past two or three years. Service men see in it a valuable instrument for detecting variations from standard of performance of an engine and an indicator of what is wrong. The vacuum gauge test follows that of the compression. An experienced service executive said, in explaining the use of the vacuum gauge: "If compression is okay, step on the starter with the ignition switch off. Under these conditions the vacuum gauge must show vacuum and this test checks for leaks in or about the carburetor or in the manifold riser or in the manifold. At intermediate speed of the engine, the vacuum gauge is a positive indication of valve action. Poor seating of valves will show up on the gauge in unmistakable fashion. We must remember, however, that all engines are individuals and that we must interpret the vacuum gauge readings for these individual conditions."

The same executive suggests the use of a dash-mounted vacuum gauge for making gasoline mileage tests. It is his idea that running an engine for a given interval of time or of mileage with the vacuum at a given point is a more uniform test of performance than the same distance traversed with varying vacuum.

The last of the operations in a modern engine tuned-up is to analyze the exhaust gas by an exhaust gas analyzer. These instruments have been greatly simplified and they indicate that the carburetor mixture is normal, lean or rich by means of suitable scales. Many large fleet organizations have found it worth while to check their routine maintenance of engines by periodic tests of exhaust gas. One large fleet added the exhaust gas analysis to the routine check-up and while the superintendent was very much gratified to find that the engine tune-up was, in general, giving very good results, he found enough variation to make it worth while to add the exhaust analysis to the tune-up.

Experienced maintenance men quickly learn the significance of the action of the exhaust gas analyzer on a given engine. Ordinarily the exhaust gas instrument indicates the mixture ratio of an engine which is performing satisfactorily throughout. However, the exhaust gas machine can be used to detect faults in the operation of ignition or other units of the engine. If everything is all right, the pointers on the exhaust gas analyzer should remain steady with a given throttle opening. If the pointer swings up and down several points on the scales, it is a sure indication that something is wrong and this is fixed before the final check of the mixture ratio is made.

17 Changes in Design Would Cut Service Time and Cost

(Continued from page 12)

upon the customer, and is frequently misunderstood by him. In actual practice, the owner frequently refuses to wait the additional time, and the part is thus neglected.

7. Standardized Fittings. It is desirable to standardize on a minimum number of types of fittings for chassis lubrication; as this will permit all service stations and garages to give proper lubrication service to all vehicles, with a minimum investment in greasing equipment. This does not mean that the development of fittings which present a distinct advantage over previous equipment should be discouraged.

8. Wheel Bearing Pipe Plugs. Wheel bearings—both front and rear—should be fitted with pipe plugs instead of grease fittings in order to prevent overfilling, which is frequent at present. An improvement in the design and manufacture of grease-retaining fittings probably would not correct the present difficulty.

9. King-Pin Fittings. King-pin fittings should be so located that they can be serviced without turning the front wheels.

10. Hydraulic Reservoir. The reservoir for hydraulic-brake systems should be readily accessible.

11. Hydraulic Shocks. Hydraulic shock absorbers should be so constructed or installed that they can be filled without removing them from the chassis; they should be fitted with drain plugs, and should be plainly marked with lettering not easily effaced, to show the proper fluid.

12. Wheel Sizes and Tube-Valve Fittings. A minimum number of wheel sizes and tube-valve fittings should be used, so that adequate service can be rendered with a reasonable stock inventory.

The electrical system of many present-day vehicles can be vastly improved from the service standpoint by re-locating the storage battery, ignition coil, condenser, and distributor head.

13. Battery Location. The battery should be located so that it is accessible for testing in the car without the danger of causing sparks or spilling battery fluid on the upholstery. Accidents frrom causes such as these do not occur frequently, but their number is kept down only by the care of the individual service man— and not by any inherent feature of design or location. Batteries should be held firmly in place by some sort of clamp or wedge, and should be located perferably in about the same position on all cars.

14. Ignition System Location. Service records show that by far the great majority of difficulties on the road is caused by failures of the electrical system—a number of which could be eliminated by locating the ignition coil, condenser, distributor head, and high-tension wiring so that they are free from oil and grease, not subject to extremes of heat or moisture, and readily accessible for inspection, adjustment, or replacement, as the case may be.

15. Radiator Drain Cock. On a number of cars the location of the radiator drain cock is such that the service man must get under the car or down in front of the wheels to open it. This presents a distinct accident hazard, as the man may be badly burned or run over. It should not be difficult to eliminate.

16. Radiator "Try Cock." A means should be provided for determining whether the radiator has sufficient fluid in it, as on the later-model cars it is often impossible to see the liquid level through the radiator fill opening. This can be easily done by incorporating a "try cock" on the back of the radiator at the proper level.

17. Water Pump Design. The design and arrangement of the water pump should be such that the pump shaft can be replaced, when scored, without the necessity of removing the radiator or some other major part.

● *Information Plate*

Information and special service instructions—issued by the manufacturer, either with the vehicle or to the factory branches, distributors, and dealers—greatly influence the service which a motor vehicle receives over its entire life. The use by all manufacturers of an information plate located in a standardized position, preferably on the front of the dashboard—showing, in addition to the regular information as to make, model, type, etc., the fuel tanks, radiator, crankcase, transmission, and differential capacities, correct tire-inflation pressure, and any other information of importance—would be very helpful, and well worth the expense.

(This article is excerpted from an A. P. I. Convention paper.)

Pinch the Pennies and You Save Dollars

(Continued from page 26)

vacuum tank tops and shock absorbers, and we arc-weld wire wheels. We find it economical to regrind crankshafts. Every little item does its bit to whittle down our costs.

There is nothing new about preventive maintenance, except, perhaps, variations in the manner of scheduling the inspections. We have found that preventive maintenance is a big cost reducer. We carry our schedule out on a bi-monthly frequency basis, using a printed form designed so that complete and careful inspection and record can be made with a minimum of labor expense. Our personnel is trained so that a constant inspection is being made of vehicles at all times when they are being worked on for specific repair jobs. Drivers are also trained to report daily all defects noticed while using the vehicle.

Failures in the field have given us a valuable key to cost reduction. We keep a record of all failures, study them, and classify them by cause and by vehicle type and make. During 1931 we recorded 101 field failures which we termed "preventable" and, by study and action, we reduced our "preventable" field failures in 1932 to 61.

The study of these failures indicates which units of the various types of vehicles operated are most prone to failure. These can be given special inspection attention in addition to the regular bi-monthly complete inspection.

One important discovery made by the study of these failures was that manufacturers have failed, in some instances, to develop trouble-proof parts, such as the starter gearings, which are responsible for the greatest majority of our field troubles. Ignition troubles come second. By more careful and frequent inspection of the ignition systems we have prevented many ignition failures in the field. Such failures include water in distributor head, shorted wires, poor plugs, broken wiring, or wiring so weakened in spots that continued vibration soon breaks it. Clutch troubles have been reduced by our special inspections.

Owing to the extensive territory in which our vehicles operate, many of our break-downs occur miles from headquarters, and entail considerable cost in sending out a mechanic to remedy the trouble. Any reduction, therefore, in the number of our field failures, is money in the pocket.

Shop overheads always require very close supervision, and in this item we can make further reductions, however small, by tightening up. Greasing and servicing of vehicles should be done by men really trained in the work who can do it with accuracy and dispatch. The salvaging of broken tools, the stricter accounting for miscellaneous repair materials, the absolute elimina-

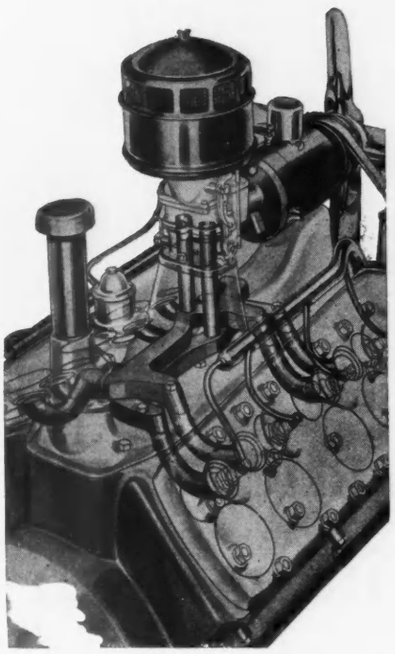
(Turn to page 50, please)

Changes in Design Make the New Ford V-8 More Efficient

THE 1934 Ford V-8 engine although following the basic design of the preceding model incorporates a new intake manifold and dual downdraft carburetor of Stromberg make and a cast alloy crankshaft. The manifolding and carburetion increase the maximum horsepower approximately 12 per cent, and is said to increase the fuel mileage, particularly at higher engine speeds.

During the advance showing to dealers on December 7th, it was said that four-cylinder passenger cars had been discontinued and that four-cylinder trucks would be supplied on order, regular truck production being almost entirely V-8's. Prices of the eight-cylinder trucks have been reduced $30 and $40 for the 131 and 157 in. wheelbases respectively.

The crankshafts are made of high-carbon cast alloy steel with high content of copper-chrome-silicon. The metal is said to have a strong, tough matrix through which wear-resisting particles and graphite are distributed. The new material is claimed to have much longer life under alternating stresses, like those in a crankshaft, and its bearing properties to be better than those of ordinary crankshaft steel. Wear on the journals is said to be greatly reduced, being less than one ten-thousandth of an inch in 10,000 miles. The pins are cored, reducing their weight and the weight of the required counterbalances, about 10 lb. On the truck engines the floating connecting rod bearings are made of copper-lead with steel reinforcement.



A new dual intake manifold and dual carburetor supply the cylinders of the new Ford V-8 Engine. Each barrel of the carburetor supplies the inner cylinders of one bank and the outer cylinders of the other bank, increasing power

Oil consumption of the engine has been reduced by providing new piston rings, modifying the piston design, installing baffle plates over the oil-return holes in the valve chamber and redesigning the oil pan to permit the oil to return to the sump more rapidly.

It is now possible to insert the valve assembly, comprising valve, valve spring, spring retainer and guide through the valve port. The guide is split lengthwise and the assembly is held in place by a clip which fits in a groove in the guide and is inserted through the valve chamber. The new arrangement makes it easier to adjust tappet clearance and saves from one to two hours on the operation of removing and replacing valves.

Thermostats are now installed in the cylinder head water outlets.

Diamond T Designs a Completely Stream-lined Tank Truck

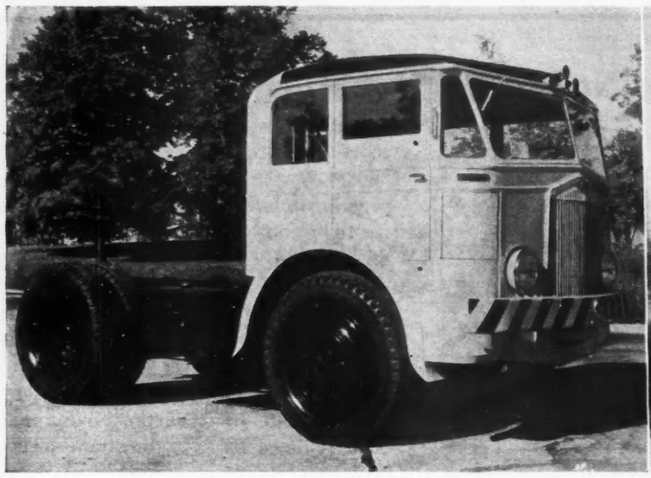
TAKING advantage of the fact that liquids, unlike other loads carried by trucks, impose no limitations upon the shape of the container in which they are carried, the Diamond T Motor Car Co. and the Texas Co. have designed a 1500 gal. tank truck of unusual design and construction. It is of torpedo shape with blunt front end, semi-cylindrical center section and tapering tail which minimizes air resistance, has low center of gravity, short wheelbase of 140 in. and the unusual weight distribution of 45 per cent on the front axle and 55 per cent on the rear.

The engine is mounted longitudinally in the rear tail compartment with the radiator mounted cross-wise behind the oil storage tanks. A top section of the tail housing opens to permit a mechanic to stand erect as he works on the engine. The driving compartment is completely enclosed with double curved plate glass, carrying out the streamline design of the front end.

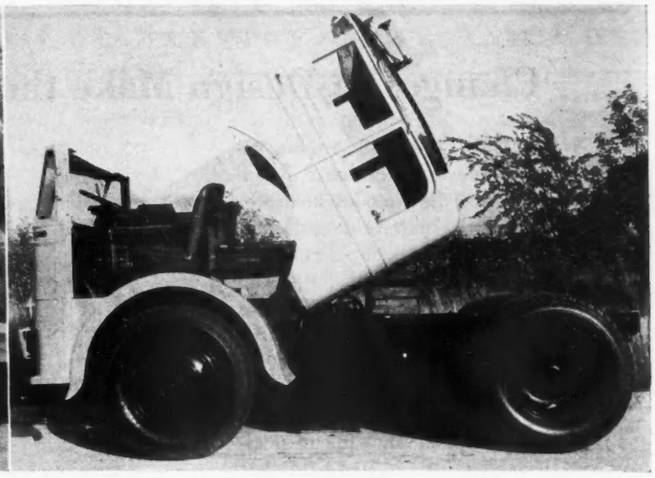
Compressed air is used to operate air brakes and the horn and in addition clutch and transmission are operated by air, as is the steering gear.

The first truck, designed by H. W. Kizer, superintendent of automotive equipment for the Texas Co., and C. A. Pierce, chief engineer of the Diamond T Motor Car Co., is intended for metropolitan delivery service. The rear axle ratio is selected for acceleration under full load. Trucks of the same general design on longer runs and inter-city service will be equipped with faster rear axle ratios to obtain higher road speed. Over-all measurements are: length 26 ft., width 92 in., height 79 in. loaded. The dual rear wheels carry 9.75 tires and the single front tires are 11.25.

Additional details of this unusual design will be published when available



The sloping V-shaped windshield placed at the front gives unusual visibility



For removing the engine the cab is tilted on rear hinges exposing the powerplant

Sterling's "Camel Back" Features Tilting Cab

The job as it looks head-on

Places engine inside hood between bucket-type seats to provide ventilation and accessibility

STERLING Motor Truck Co. has developed a short coupled chassis with the engine in a compartment between two individual front seats. It is thus of the cab-over-the-engine rather than engine-under-the-seat type. The cab is hinged at the rear and may be tilted back, as shown in the illustration. On trucks with bodies or tanks mounted immediately back of the cab, the hinge pins are removed and the cab can be raised vertically.

The short coupled models are modifications of standard truck models including FD97S, FD115, FC107, FC-135, FC140, FC145, FC170, FDT200, FDT250, FCT180, FCT200 and FCS-210. The Model GD195, which is illustrated above, is similar to the standard model FD195.

The tractor here described is to be used to haul a semi-trailer and one four-wheel trailer, each equipped with a body 14½ ft. long, giving an overall length of the train of 40 ft. Compared with conventional type of tractor with the engine-under-the-hood this short coupled construction adds 5 ft. to the available body length for a given overall length.

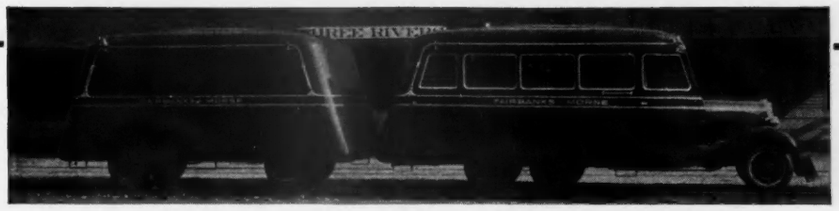
Wheelbase of Model GD195 is 104⅝ in. with dimension from back of the sleeper cab to the axle of 70 in. The engine is a six cylinder Diesel although the same type of vehicle is supplied with Waukesha gasoline engines and either enclosed drive or chain drive rear axles on order. Clutch and transmission are Brown-Lipe units and front and rear axles are Timkens. The transmission has five forward speeds with direct on fourth and rear axle is of the double reduction full floating type.

The engine carries an air compressor which supplies pressure for the wheel brakes and for operating the clutch. The clutch is actuated by a self lapping piston type valve which is operated by an arm attached to the lower end of the clutch pedal. An air line from this valve connects with an air brake chamber which is coupled with the clutch throw-out lever. When the clutch pedal is depressed, the valve is opened and operates the brake chamber which disengages the clutch.

To make the engine accessible, it has been placed immediately back of the radiator. An insulated hood prevents heat from the engine entering the cab and provides an unobstructed channel for the flow of air from the radiator to the rear of the cab. A three hinge hood is used as in the conventional truck. When it is necessary to remove the engine, the cab is tilted as shown in the illustration.

The cab contains two individual bucket-type seats in addition to the sleeper compartment. The V-type windshield with glass at the sides permits full vision. Adjustable ventilators are located in the forward corners. A distinctive feature is the wide single bar bumper mounted very close to the radiator and the front of the cab and distinguished by inclined black and white stripes.

The engine is a Cummins Diesel with six cylinders 4⅞ x 6 in. with piston displacement of 672 cu. in. Speed of the unit in direct drive at engine governed speed is 37 m.p.h. and 52 m.p.h. in over-drive. Tires are 9.75/24, dual rear. Drive is taken through radius rods.



This is the latest in articulated transportation over rails. The forward unit is a 14-passenger bus by Chrysler. The baggage trailer body is by Fruehauf. The estimated cost is $10,000 complete

• THE EAR-TO-THE-GROUND DEPARTMENT •

Battles for Position

With every company confidently expecting 1934 to be a year of considerable general business improvement, manufacturers are priming themselves and the industry will see some good old-fashioned battles for positions. Two of these competitive battles will be of major importance. Ford will make a determined attempt to regain the lead which Chevrolet captured this year by a very wide margin. And Dodge will strive to take third place from International Harvester, which copped this spot in 1929.

Dodge Girds Its "Loines"

Dodge will have quite a number of new mechanical features in its truck and commercial lines. On the latter you'll doubtless find independent wheel suspension which, report says, is scheduled.

Keep Your Eye on IHC

International Harvester is expected to counter with a line greatly improved in appearance and mechanically. A new line of six-cylinder engines is said to be on the way.

Chevrolet Indicators

The nature of Chevrolet's new offerings is indicated by the reports about its passenger cars. Longer wheelbase, higher output engine (without material redesign fundamentally), more streamlined bodies and independent springing for front axles are among the features expected.

Developments and Changes

President Seiler of General Motors Truck says: "In the not distant future there will be many new developments and changes in automotive design—particularly in the heavy-duty field." Remember we told you last month about the GMT "camel-back" model, public announcement of which has been postponed.

Ford Rumor Bureau

The Ford Rumor Bureau will now take a bow acknowledging applause, if any, for verified predictions and will presume to predict further. The cast alloy crankshaft is standard in the new Ford V-8 and it is boldly presented as an improvement over forged shafts. Special composition connecting rod bearings, still of the floating type, are used in the truck engines. The old reliable babbitt metal is being eclipsed. We bow to the right and to the left.

The four-cylinder engine is about through, now supplied only on order.

With all the activity which brought out the new car without an upheaval such as characterized the development of the Model A, it is difficult to sort out the few indications of progress on the smaller car. Salesmen in an eastern city promised delivery to a fleet owner by the first of the year. They are too optimistic—'twill be summer time before that particular order is filled.

It will be another V-8, the Bureau sticks to that, to fill the niche left vacant by the four-cylinder passenger cars now out of production. Smaller than the new V-8, lower priced, more economical to operate but no slouch on performance that is the new job.

Bodies By Pennsy

Our favorite sleuth reports that the Pennslyvania Railroad must be experimenting with truck body building. In the Altoona shops of the Pennsy he saw freighter-type bodies being built for truck and trailer chassis. He counted about 50, intended for a "forwarding subsidiary."

This Is Self Service

And a large fleet operator in the East is building tank trailers in the well-equipped plant of a subsidiary company. He is using a new steel alloy and claims the weight saving simply makes him hilarious. He says he started building the tank trailers because the tank makers wouldn't.

Budd's Trailer Body

The Edward G. Budd Mfg. Co., will soon release details of a new type of trailer body. It is of stainless steel and shot-welded. It is said to incorporate new construction principles.

A Washer for Oil

A washer of 10-gal. capacity for treating crankcase drainings has been designed by an engineer who laid out several large fleet reclaiming systems. His idea is to stop worrying about dilution and do a thorough job of cleaning the oil at small cost. The apparatus is simple and he has a full set of working drawings. He prefers to sell manufacturing and sales rights rather than place it on the market himself.

A Test Bench That "Talks"

An engine test bench with pairs of red and green lights taking the place of dials and scales is the pet project of an experienced engineer. He will establish standards of variation from normal functions and the bench will say "okay" or "no good." The final test will put all the indicators in series and if any one has been overlooked the lights will stay dark. A row of green lights will mean that the engine is raring to go.

The Idea is Invented

The "Idea for Inventors" item in the October column regarding accidental dropping of the front ends of semi-trailers, applied to manual type semi-trailers, not the automatic coupling types, but this distinction was not made plain. A. J. Woltering, secretary-treasurer of The Trailer Co. of America, reminds us that the idea has been invented. "We have just such a device as your insurance man is talking about, namely, an interlock which makes it impossible to release the latch on the fifth wheel until the dolly wheels are cranked down to full load supporting position. This is on a manual trailer and not an automatic trailer."

Tip from Fred Frame

Here's a tip for fleet operators which comes from Fred Frame, the well-known race driver. In the Elgin race, which he won, he equipped his Ford V-8 car with No. 18 (metric) Champion plugs. This plug is standard in some truck engines. The advantages he lists are: doesn't pre-ignite under full load, doesn't foul up in city work and stands wide-open operation.

It Does the Remembering

There's an "electric eye" on the market which takes care of the lights on a vehicle automatically. It turns them on when daylight wanes, and turns them off when it returns.

Sign of Recovery

Consolidated Motors Corp., Lima, Ohio, is the name of a new truck company. It will revive the Garford, a historic name in the truck industry.—G.T.H.

Oil Changing is a Boon Not a Bugaboo and It's Not Costly

(Continued from page 24)

fleet operator will be found among those present on that side of fence occupied by the fleet operator and facing the facts in an impartial and unbiased manner. This same analyst may be the "Moses that shall lead them from the wilderness" or, in Mr. Frazer's words, their "more or less bewildering position."

Before trying to make clear my previous contentions I would like to state that in our organization there exists no sales force, high pressure or otherwise. The whole fabric of our business is built upon the basic principle of "coordinating chemical analyses with operating expense," to again quote Mr. Frazer.

As our set-up in three laboratories is devised for specialization in crankcase oil analyses we ask you to believe that we do this work, as one of our clients expressed it, "on a Woolworth basis," several thousand a month, and yet every analysis is proved accurate. A further testimony is, that during the last four years of economic difficulty our business has increased beyond all proportion to the times and in spite of the fact that many of our clients have felt the pinch of conditions.

• *How Control is Worked*

To start Mr. Frazer along the path of understanding as to how the coordination of crankcase analyses with operating expense occurs, I will state that only in cases of doubt, i. e., the performance of repairs such as a replaced head gasket following water leaks from that source or a disposition on the part of the mechanic to doubt the practicability of the oil to supply proper lubrication when we have recommended 3000-mile draining periods, are check samples taken. (Mr. Frazer calls this tapping the crankcase.)

Samples of the oil from the crankcase are taken every time the motor is drained, or more frequently if necessary. Samples are labeled and sent to our laboratory. Within *three days* tests are made and results analyzed.

Individual test report sets forth the operating and mechanical condition of the motor (shown by the result of the analysis), makes required recommendations—and shortens or lengthens the period of the next oil change.

The time for oil changing is lengthened when the condition of the oil is good and will not cause wear or friction. The draining period is shortened when the oil is in a damaging condition or when mechanical defects are detected which (if neglected) may necessitate a major repair.

The motor faults and conditions regularly indicated are as follows:

Gasoline Dilution—caused by loose rings, poor ignition, inefficient spark plugs, inferior gasoline, faulty or poor valves or adjustment, rich carburetion, cold weather, cold motor or heavy overchoking.

Solids—caused by the wrong weight or type of oil for the motor, motor running too hot, water in the oil, cracked piston head, oil too thin, rings too tight, gasoline dilution, poor timing, poor ignition and loose bearings. (Motors not using any oil between drains sometimes cause high solids with no motor trouble.)

Faber Vis—measures the oil in the same undisturbed condition in which it was during use. (The oil is not subjected to direct heating and contaminants are not removed. Results are given in seconds for comparison.)

Metal in the Oil—caused by ring-cylinder, bearing, timing gear, piston, or wrist-pin wear, cracked or broken bearings, or rings. (Metal is to be expected after repairs.)

Water in the Oil—caused by a cracked motor block, cracked motor head, leaking head gasket, motor and body washing, rain and by-products of combustion and/or condensation.

Sludge in the Oil—caused by water oxidization, road dirt, fuel soot, carbon acid and dilution or all of them together or severally.

Fuel-Soot is not from gasoline entirely but is rather the residue formed from the effect of unburned gasoline. Indicates incomplete combustion.

Free Carbon is created by heat and/or friction. Usually drops from the under-part of the piston head, etc. Clogs oil lines and bearings and can cause serious abrasion.

Road Dirt is present because of air cleaners not working properly, dusty roads, insufficient protection, etc.

Operating Temperature (result of Flash and Fire Test). The temperature of the crankcase is very important, especially if too high or too low.

Retarded Oil Flow is caused by too much dirt, carbon, metal emulsion or sludge interfering with free oil circulation.

Type of Dilution—Heavy ends result from the accentuation of the faults, causing gasoline dilution. Light ends mostly exist if the crankcase vaporizing temperature is low.

The above tests are made on every sample, every time. Our charge is not based on so much per sample, but is a very low charge of $0.0007 to $0.00099 per mile with a price of $0.0004 for motors traveling over 100 miles daily per unit. If, as in certain cases mentioned in my previous articles on which this discussion was based, it was necessary to drain the crankcase at 300-, 400- or 500-mile intervals and this travel period involved a week's operation, we did about four or five complete analyses per month. In such cases we took it, as the cognoscenti have it, "on the chin." The quantity of oil removed from the crankcase for check purposes is so small that it would be almost negligible. The necessity of dilution tests every 100 miles I am sure a moment's thought on the part of Mr. Frazer will develop the fallacy of; for it is well accepted fact that under regular operation each crankcase reaches and maintains a fairly permanent dilution balance. This does not, however, keep us from supplying a dilution report with each test.

The costs of these analyses are so far below the figures guessed at by Mr. Frazer as to possibly create some disbelief in his mind. But when thought is given to the fact that these analyses are done on a quantity basis with a fixed overhead, it is not difficult to see where volume results in this extremely low cost.

• *The Benefits of Control*

A summary of what can be accomplished by Laboratory Fleet Control follows: Ends indecision on purchases. Gives an intimate grasp of maintenance details. Confirms expert and conscientious workmanship. Provides counsel and supervision, available in no other way. Directs attention to unseen motor defects and adjustments. Indicates the advisability of repairs and lowers shop costs. Substitutes knowledge for unsupported opinions and arguments. Affords closer supervision and raises shop standards. Shows where damaging friction is going on. Calls attention to needed adjustments. Shows effectiveness of adjustment or repair. Prevents loss of valuable time in "trouble shooting." Avoids waste of good oil. Prevents damage due to continued poor lubrication. Prevents waste of gasoline. Indicates internal wear and needed adjustments often before they are evident to driver or mechanic.

In conclusion I would like to say that I accept Mr. Frazer's criticism as having been intended to contain no rancour and ask that he accept this in a similar spirit. I feel that we both are motivated by a sincere desire to develop something constructive for the automotive transport industry.

Only 3 WORDS

DU PONT AUTOMOTIVE DULUX

... *but* THEY TELL A COMPLETE STORY ON HOW TO PROTECT TRUCKS AND SAVE MONEY

Long-lasting finish of du Pont Automotive DULUX protects tank wagons of the American Oil Company. DULUX is especially resistant to harm from gasoline and oil.

THREE WORDS point a way to keep trucks out of the refinishing shop and to get maintenance costs lower than ever.

The words are "du Pont Automotive DULUX." They form the name of a Pre-Tested finish that has proved its right to be called outstanding because of its exceptional durability.

When the American Oil Company looked for a finish that would stand the terrific wear and tear on gasoline tank wagons, they chose du Pont Automotive DULUX. Owners of trucks and commercial vehicles of all kinds see in DULUX advantages they have long sought in a finish.

Automotive DULUX is a finish so hard that it resists mechanical injury. It is flexible also, and stays flexible so that it does not crack, chip or flake. Its impermeable film resists corrosion. It is highly resistant to gasoline and oil. It dries quickly . . . is easy to apply in your own shop or to have applied by the Authorized du Pont Refinisher. It retains its original color and fresh appearance, eliminating need for frequent refinishing and touching up.

Best of all, you can depend on getting such a finish every time you use du Pont Automotive DULUX. It is a Pre-Tested product. Chemists tested every raw material needed for the selected formula. They put the finished product—Automotive DULUX—on wood and metal panels and exposed it for months to the weather. They applied it to trucks under actual conditions of use.

Today they are constantly checking production to see that the superior characteristics of Automotive DULUX are kept up to fixed standards. Pre-Testing is your protection against finishing troubles, failures and useless expense . . . your assurance that Automotive DULUX is an economical investment which pays for itself.

Let us supply Automotive DULUX for your fleet and also help you work out specification standards for refinishing. These specifications will establish definite procedure in your shop for getting the most satisfactory and economical job. For further information, address E. I. du Pont de Nemours & Co., Inc., Finishes Division, Wilmington, Delaware.

DU PONT REG. U. S. PAT. OFF. AUTOMOTIVE

DULUX

Reg. U. S. Pat. Off.

COMMERCIAL CAR JOURNAL

NEWS

122% Gain in Output

Truck production continues to run far ahead of last year's figures. The total produced in October was 31,461, an increase of 122 per cent over the previous October's 14,157. The total for 10 months of 1933 was 313,058, an increase of 48 per cent when compared with the 210,943 of the same period of 1932.

It is quite likely that the total for the year will run close to 360,000 units. Last year's total was 245,285.

GM to Sell Fleets Direct

It has been reliably learned that General Motors Corp. has advised approximately 400 companies recognized as fleet customers that the corporation will sell cars and trucks direct to them at a discount. Discounts probably won't be announced until 1934 merchandise is ready. Distribution details are not yet available.

Dodge Has 3612 Dealers

During the month of October the Dodge dealer organization was augmented by 232 dealers, making the total in the United States 3612 as of Oct. 31.

X-Country Ford Gives 9.1

Averaging 41.4 m.p.h. and 9.1 miles per gal., a Ford eight-cylinder truck with panel body and carrying a two-ton load, this week completed a transcontinental run from Atlantic City to Los Angeles. Three drivers were used, all being salesmen of a Philadelphia Ford dealer.

Reo Reduces List Prices

Effective Nov. 6, Reo Motor Car Co. announced new base price list prices, as follows: Model 1B, 1½-2½ tons, $595; Model 2B, 2-3 tons, $845. Prices on 2-, 4-ton models are $1,245 up, on the 2-, 5-ton series $1795 up, and on the big 8-cylinder 4-, 6-ton models, $2,595 up.

T. E. C. Reorganizes

A new corporation of the same name has taken over the business of the Truck Equipment Co., Inc., Buffalo, maker of a wide range of equipment for motor trucks, including Truxmore third axles and Gravity Spring Suspension. The financial reorganization puts this company in a stronger position than ever before. Officers are unchanged.

Road Builders Meet Jan. 22

The American Road Builders' Association's 31st annual convention and exhibit will be held at the Stevens Hotel, Chicago, during the week of Jan. 22.

Thermoid Shows Increase

Sales of Thermoid Co. and wholly owned subsidiaries for the month of October, 1933, showed an increase of 67 per cent over October, 1932.

Studebaker Picks Edwards

W. H. (Cap) Edwards, veteran manufacturer and one of the founders of the Edwards Iron Works, Toledo, has been appointed general manager of all Studebaker truck activities. A program of expansion in this branch of Studebaker's business is stated for 1934.

C. H. Wondries will continue in charge of sales of the truck division and J. L. Engels as sales promotion manager.

G M T Makes Changes

Paul W. Seiler, president and general manager, General Motors Truck Corp., has announced the following personnel changes: Appointment of G. A. Green as member of executive staff; W. B. Livingston, assistant to the president; H. J. Crichton, supervisor of purchases; C. O. Ball, chief engineer; W. D. Reese, assistant chief engineer; W. E. Moody, assistant factory manager; H. J. Havermale, chief inspector.

Crawford Heads Thompson

F. C. Crawford, formerly first vice-president of Thompson Products, Inc., has been elected president, succeeding the late C. E. Thompson.

Fenner Made Mack V.-P.

David C. Fenner, for 14 years manager Public Works Department, Mack-International Motor Truck Corp., was elected a vice-president Nov. 22. He has been prominent in public relations and legislative work for the automotive industry for many years.

Alexander Legge

Alexander Legge, president of the International Harvester Co., died in his suburban home at Hinsdale, Ill., on Dec. 3. In addition to his position as one of the nation's leading industrialists he was widely known for his services to the government culminating in his chairmanship of the Federal Farm Board created in the Hoover Administration. During the World War he was vice-chairman of the War Industries Board and had charge of the Allied Purchasing Commission. Mr. Legge was born in Wisconsin in 1866. He joined I. H. C. in 1891, rising steadily until he became its president.

Job Wanted

(The Editor will forward correspondence.)

A-22 (37 yr. old) Fleet supervisor, nine years with last employer, a large corporation. Experienced in the operation, maintenance and purchase of cars and trucks. Can analyze cost figures. Has handled the operation of a large mixed fleet. Available at once. Can travel.

I H C Personnel Changes

While no official announcement has been made public the following promotions have occurred within the International Harvester sales organization: Norman Roblee, from sales manager of the Erie Avenue (Philadelphia) branch to manager of National Account Division with Chicago headquarters; Tom Jenkins, from Chicago to Boston as branch manager; P. Moulder, from Albany, N. Y., to New York as branch manager; C. R. Frobes, from assistant branch manager Philadelphia to Albany as branch manager; W. K. Perkins, from West Philadelphia branch to assistant Philadelphia branch manager; M. J. Breslin from Philadelphia national account sales to West Philadelphia branch manager, and T. J. Graham from wholesale sales to Philadelphia national account sales.

Gill Goodrich N. A. Chief

W. W. Gill has been appointed manager of the national accounts sales division of the truck and bus tire department of the B. F. Goodrich Company. He succeeds C. H. Russell, deceased. J. R. Rutherford, formerly sales supervisor in the Milwaukee district, takes Gill's former post of national accounts sales representative for Goodrich in New York City.

Anderson is Manley G. M.

C. A. Anderson has been appointed general manager of the Manley Mfg. Co., York, Pa., manufacturer of garage and automotive service station equipment, and an American Chain Co., Inc., associate. Mr. Anderson was general manager of the Wright Mfg. Division of American Chain.

Fish Commercial Manager

W. E. Fish has been made manager of the commercial car department of the Chevrolet Motor Co. He succeeds C. P. Fisken, who is now sales promotion manager for the company, replacing W. G. Lewellen. Mr. Lewellen is on special sales assignments in the central office—work formerly done by H. B. Hatch, now assistant general sales manager.

Lycoming Promotes Dunbar

Frank H. Bender has been appointed vice-president and general manager of Lycoming Mfg. Co. John E. Dunbar, former purchasing agent, becomes assistant general manager.

Jarman Joins Ray Day

A. Ross Jarman has joined Ray Day Piston Corp. of Detroit as service engineer. He will specialize on piston engineering problems of bus and truck operators.

Poag Names Assistants

Emerson J. Poag, director of advertising and merchandising of Dodge Brothers Corp., has appointed Oscar E. Mittelstaedt assistant director of advertising and Allan S. Heaton assistant director of merchandising.

COMMERCIAL CAR JOURNAL'S

TRUCK SPECIFICATIONS TABLE

The Commercial Car Journal's Truck Specifications Table is brought up to date in each issue from data supplied monthly by truck manufacturers

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KEY TO ABBREVIATIONS AND REFERENCE MARKS

GENERAL

Chassis Price—Chassis price quoted applies to the standard wheelbase and specifications listed. All prices are F.O.B. factory.

***—List price not yet established. Ready next issue.

Tonnage Rating—Where a spread of ratings is given the maximum ratings are for ideal operating conditions and the minimum for extremely difficult conditions; the ranges between are for varying operating conditions.

Gross Vehicle Weight—Is chassis weight, plus body and cab, plus payload. Gross vehicle weight given for a model is based on maximum recommended tire size and not on tires listed as standard equipment.

Chassis Weight Stripped—Includes gas, oil and water and all things included in chassis price. Does not include the weight of cab.

Maximum Brake H. P. at Given R.P.M.—Is actual dynamometer reading without accessories.

Tractors—Unless given the designation N (meaning not available as tractor), all standard models may be assumed to be available as tractors.

(N) Not available as tractor.

(T) This designation accompanying a model number indicates vehicle is specifically designed for tractor use only.

(3) **Corbitt**—Larger engines and corresponding auxiliary units provided on all models at extra cost.

(4) **Day Elder**—Model 75—1½ ton—same specifications except price—$945, and larger tire size—B6.00/20 front and DB6.00/20 rear.

(5) **Dodge**—F-61 available as special tractor truck with 146-inch wheelbase with model designation of F-60, at $2645. G-81 available as special tractor truck with 146-inch wheelbase with model designation of G-80, at $5250.
(5a) **Dodge**—Model H20, ¾-1 ton, gross vehicle weight 6,000 lb., price $502, has same specifications as H30 except tires which are 7.50/17 and lighter rear springs.
(6) **General Motors**—Models T-18 to T-61 inclusive are also available for export only as coach chassis. Double reduction axles optional in Models T-43 T-51, T-61, T-83 and T-95 at extra cost. Trailing type axles available on Model T-95 at price deduction. Optional size engines available on Models T-85, T-85H, T-95, T-110 and T-130 at varying cost
Gramm—Larger engines and corresponding auxiliary units provided on all models at extra cost when type of service demands. Wheelbases and body mounting dimensions may change to suit special requirements. Double reduction axles available on all models except AX and BX.
Gross weight indicated for each model in the table is the straight rating.
Series CXH is supplied with Hercules JXB engine in Model CXHB and Hercules JXC in Model CXHC.
(7) **Grass Premier**—Eight cylinder engines available on following models: 835 with Lyc. GU at $1515 list; 865 with Lyc HF at $4230; 875 with Lyc. AE at $5400.
(8a) **International Harvester**—A-1, ¾ ton, same as A-2 except less spring leaves and smaller tires.
(8b) All Torque and Brake Horsepower values listed are based on engine outputs with all Standard Equipment Accessories running and are the same values obtaining with the truck on the road in actual operation.
(9) **Le Moon**—Model 600 available with Lyc. AEC at same cost. Models 701 and 801 available with Waukesha 6SRL at same cost.
(10) **Sterling**—Rocker arm used in place of springs
(*) **Sterling**—These models also available equipped with Cummins Model H Diesel engine.
†**Reo**—Models 1C and 1D are the longer wheelbase editions of Models 1A and 1B. The frame dimension of both is 7x2¾x¼. They are furnished at extra cost.
††**Reo**—2J,2K same as 2H except 166 in wheelbase and price of $1695
††**Reo**—3J same as 3H except wheelbase of 170 in. and price of $2085; 3K same as 3H except 185 in. wheelbase and price of $2155. 3M same as 3H except 205 in. wheelbase.
(11) **Studebaker**—S-2 in 141 in. and 165 in. wheelbases has 6⅛ in. frame depth.
(12) **White**—Each model shown is furnished with different specifications for different tonnage ratings.
*—Factory governed speed 2400 r.p.m.
(13) **Marmon-Herrington**—Available with Hercules Diesel engine at extra charge of $1950
(14) **Ford**—Rear axle ratios 5.14 and 6.6 optional on 1½-ton trucks.

MAKES—ALL

AB—American Bosch.
A LaF—American La France.
AL—Auto Lite.

B—Bendix.
BB—Borg & Beck.
BL—Brown-Lipe.
BO—Bendix front, Own rear.
Blo—Blood.
Bu or Bud—Buda.
BW—Borg Warner
BWs—Bendix front, Westinghouse rear.
C or Col—Columbia.
Car—Carter.
Ch—Chicago.
CI—Ignition by compression.
Cl or Cla—Clark.
Cle—Cleveland.
Co—Covert (transmission).
Co—Covert (clutch)
Con—Continental.
Cot—Cotta Gear.
Cum—Cummins-Diesel

Det—Detroit Lubricator.
DG—Detroit Gear and Machine.
DR—Delco Remy.

Eat—Eaton.
Ei—Eisemann.
En—Governor built in engine
EV—Electro-Vac (gov.) Pierce.

Fe—Fedders.
Fu—Fuller.

Ge—Gemmer.
GO—G. & O.

Ha—Handy (governor).
Ha—Hannum (steering gear).
HaS—American Car & Fdry.
Her—Hercules.
Hr—Harrison.
HS—Merchant & Evans (clutch).
HS—American Car & Fdry. (governor).

Jac—Saginaw.
Jo—Jones.

KP—Handy.

L—Lockheed.
Li—Lipe, W. C.
LN—Leece Neville.
Lo—Long.
LO—Lockheed front, Own rear
LW—Lockheed front, Wisconsin rear.
Lyc—Lycoming.

Mc—McCord.
Ma—Marvel.
ME—Merchant & Evans.
MM—Mechanics Mach.
Mo—Modine (radiator).
Mo—Monarch (governor).
My—Mallory.

NE—North East.
No—Not supplied.
ns—No Standard.
O or Ow—Own.
Op or Opt—Optional.
Pe—Pierce (governor).
Pe—Perfex (radiator).
PS—Peters & Snead.
RB—Robt. Bosch.
Ro—Rockford.
Ros—Ross.
Sc—Scintilla.
Sch—Wheeler-Schebler.
Snu—Shuler.
SpB—Spicer and Blood.
Spi—Spicer.
Ste or St—Sterling.
Str—Stromberg.
Til—Tillotson.
T or Tim—Timken.
TWH—Timken Wisconsin Herrington
WG—Warner Gear.
Wa—Waukesha (governor).
Wau—Waukesha.
W or Wis—Wisconsin.
Ws—Westinghouse.
Yo—Young.
Zen—Zenith.

BRAKES—SERVICE

Location

2—Two Wheels, rear only.
2/4—Two-wheel brakes effective on all four wheels through driveshaft.
4/6—Brakes on four rear wheels effective on all wheels through driveshaft.
T/4—Brake on transmission effective on all four wheels through driveshaft.
4—Four Wheels, front and rear.
4r—Four Wheels, rear only.
6—Six Wheels, front and rear.
J—Jackshaft.
P—Propeller shaft.

Type

I—Internal.
X—External.

Operation

A—Air.
D—Hydraulic and mechanical.
H—Hydraulic.
M—Mechanical.
V—Vacuum.

BRAKES—HAND

Location

C—Center of double propeller shaft.
2—Rear wheels.
4—Four wheels.
R—Worm or bevel gearshaft.
T—Transmission.
F—Driveshaft.

Type

D—Tru-Stop disk.
I—Internal.
X—External.

BRAKE DRUMS

Material

a—Cast alloy iron.
A—American Car Fdry.
C—Centrifuse
D—Dayton.
E—Ermalite.
G—Gunite.
H—Hunt Spiller.
c—Cast iron.
p—Pressed steel.
P—Pressed steel.
s—Cast steel.
(Where a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

CLUTCH

Type

D—Multiple disk.
dp—Double plate.
O—Plate in oil.
P—Single plate

ENGINE

Valve Arrangement

F—Inlet valve in head; exhaust valve at side.
H—In head.
L—"L" head, valves at side.
T—Inlet and exhaust on opposite sides.

Camshaft Drive

C—Chain.
G—Gear.

Piston Material

A—Aluminum alloy.
B—Semi-steel.
C—Cast iron.
N—Nickel iron.
S—Aluminum alloy with strut.

Main Bearings

r—Rear main bearing.

Oiling System

CC—Pressure to main, connecting rod and camshaft bearings.
FP—Pressure to main, connecting rod camshaft bearings and piston pins.
PC—Pressure to mains and connecting rod bearings.
PG—Pump, gravity and splash.
PS—Pressure with splash.

FRAME

Type

I—"I" Beam.
C—Channel.
T—Channel tapered front and rear.
L—Channel reinforced with liner.
B—Channel reinforced with both liner and fishplate.
P—Channel reinforced with plate.
TL—Channel tapered front and rear reinforced with liner.
D—Drop Center
Tf—Tapered front
X—x-Braced

FUEL SYSTEM

Fuel Feed

E—Electric pump.
G—Gravity.
M—Mechanical pump.
P—Pressure.
V—Vacuum.

REAR AXLE

Final Drive and Type

B—Bevel.
C—Chain.
D—Dead.
F—Full-floating
2—Double Reduction.
S—Spiral bevel.
W—Worm.
w/2—Worm or Double Reduction Optional.
½—Semi-floating.
¾—Three-quarter floating.

Drive and Torque

A—Radius Rods and Torque Arm.
H—Hotchkiss. (springs)
R—Radius Rods
T—Torque Arm.
U—Torque Tube.

SPRINGS

Auxiliary Type

½—Semi-elliptic above or below main springs.
¼—Quarter elliptic.
C—Coil spring.
N—No.
O—Optional.

TIRES

B—Balloon.
DB—Dual Balloons.
P—High Pressure Pneumatics.
DP—Dual High Pressure Pneumatics
S—Solids.
DS—Dual Solids.
***—Pneumatics at extra cost.

TRANSMISSION

Location

A—Amidships.
J—Unit with jackshaft.
U—Unit with engine.

Auxiliary Location

No—Not furnished.
O2—2 speed axle unit optional at extra cost.
Op—Optional at extra cost.
A—Amidships.
R—Rear of amidships main transmission.
U—Unit with engine.

WHEELS DRIVEN

2C—Center pair of rear wheels.
2R—Rear pair of rear wheels.
4F—Front and center pair of rear wheels.
4R—Four rear wheels.
6—Six wheels.

COMMERCIAL CAR JOURNAL'S

CORRECTIONS ARE MADE EACH MONTH FROM DATA SUPPLIED DIRECT BY TRUCK MAKERS

Line Number	MAKE AND MODEL	GENERAL (See Keynote) Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	TIRE SIZE Front	TIRE SIZE Rear	MAJOR UNITS ENGINE Make and Model	ENGINE No. of Cylinders Bore and Stroke	TRANSMISSION Make and Model	TRANSMISSION Location and Forward Speeds	TRANSMISSION Aux. Location and Speeds	REAR AXLE Make and Model	REAR AXLE Gear and Type	REAR AXLE Drive and Torque	REAR AXLE GEAR RATIOS In High	REAR AXLE GEAR RATIOS In Low	FRAME Side Rail Dimensions	FRAME Type
1	A.C.F. 160	6	6950	186	222	26000	10170	B9.75/22	B9.75/22	HaS 160	6-4¼x5½	BL 1714	U 4	Op	Tim 76730	2F	R	7.46	52.7	8x3x¼	P
2	175B	6½	8300	186	222	30000	10750	B10.50/22	B10.50/22	HaS 175	6-5x6	BL 714	U 4	Op	Tim 76730	2F	R	7.46	38.6	8x3x¼	P
3	175A	7½	8800	186	240	30000	11610	B10.50/24	B10.50/24	HaS 175	6-5x6	BL 714	U 4	Op	Tim 79730	2F	R	7.48	38.7	8x3x¼	P
4	Armleder 11Ha	1½–2½	1295	156	195	11500	4850	B6.50/20	DB6.50/20	Con 16C	6-3½x4½	BL 35	U 4	No	Tim	BF	H	5.83	31.2	6x3x¼	P
5	21Ha	2½–4	2185	160	207	15300	5450	B8 25/20	DB8 25/20	Her WXC	6-4x4½	Own	U 5	No	Tim	BF	H	6.06	38.5	6x3x¼	P
6	31Ha	3–4½	2695	146	213	19500	5750	B9.00/20	DB9.00/20	Her WXC	6-4x4½	Fu 5A38	U 5	No	Tim	BF	R	6.02	39.2	7x3x¼	P
7	41Ha	4½–6	3295	146	227	23000	6800	B9.75/20	DB9.75/20	Her WXC	6-4x4½	Fu 5A38	U 5	No	Wis	2F	R	7.14	46.4	7x3x¼	P
8	61Ha	5–7	4295	154	235	25500	7600	B9.75/20	DB9.75/20	Her WXC2	6-4½x4½	Fu 5A38	U 5	No	Own	2F	R	7.07	49.7	8½x3x¼	P
9	71Ha	8–11	5895	152	247	35000	9820	B10.50/24	DB10.50/24	Her RXC	6-4½x5¼	Fu 5A53	U 5	No	Wis	2F	R	7.07	49.8	8½x3x¼	P
10	(T) TRD	10	4150	148	174	35000	7100	B9.00/20	DB9.00/20	Her YXC	6-4¾x4¾	Fu 5A53	U 5	No	Own	2F	R	7.8	56.8	7x3x¼	P
11	(T) TRDA	12	4350	148	174	39000	7226	B9.75/20	DB9.75/20	Her YXC3	6-4¾x4¾	Fu 5A53	U 5	No	Own	2F	R	7.8	56.8	7x3x¼	P
12	(T) TRDB	15	4595	148	174	45000	7326	B9.75/20	DB9.75/20	Her RXC	6-4¾x5¼	Fu 5A53	U 5	No	Wis	2F	R	7.8	56.8	7x3x¼	P
13	Autocar RG	2½	3000	150	192	.....	6100	P34x7	DP34x7	Own R	6-3¾x4¾	Own T	U 4	No	Own D	2F	H	6.21	39.3	8x3x¼	T
14	D	3	3500	150	192	.....	6140	P34x7	DP34x7	Own SD	6-4x4¾	Own T	U 4	No	Own D	2F	H	6.21	39.3	8x3x¼	T
15	DF	3½	3950	150	192	.....	7010	B9.00/20	DB9.00/20	Own SD	6-4x4¾	Own T	U 4	No	Own TE	2F	H	6.43	40.7	8x3x¼	T
16	DH	4	4150	150	174	.....	7400	P36x8	DP36x8	Own SD	6-4x4¾	Own T	U 4	No	Own N	2F	H	8.57	54.3	8x3x¼	T
17	N	4	4650	191	227	.....	8275	B9.75/20	DB9.75/20	Own SCH	6-4¼x4¾	Own D	U 5	No	Own N	2F	H	7.20	45.6	9x3x¼	T
18	NF	5	4750	151	227	.....	8370	B9.75/22	DB9.75/22	Own SCH	6-4¼x4¾	Own D	U 5	No	Own TF	2F	H	7.20	42.1	9x3x¼	T
19	S	5	5500	168	168	.....	9675	B9.75/22	DB9.75/22	Own SCH	6-4¼x4¾	Own T	U 4	A 3	Own CG	2F	H	8.52	54.0	9x3x¼	T
20	C	7½	6650	158	176	.....	11784	B10.50/24	DB10.50/24	Own SCM	6-4½x4¾	BL 734	U 4	A 3	Wis 78720	2F	H	9.92	121.	10½x3x¼	T
21	CE	7½	6000	172	203	.....	10300	S36x7	DS40x8	Own SCM	6-4½x4¾	Own T	U 4	No	Own C	2F	H	8.57	52.6	9x3x¼	T
22	CBS	7½	6200	205	203	.....	9800	P42x9	DP42x9	Own SCM	6-4½x4¾	Own B	A 4	No	Own C	2F	H	8.57	52.6	9x3x¼	T
23	T	7½	5900	192	242	.....	9680	B10.50/22	DB10.50/22	Own SCM	6-4½x4¾	Own D	U 5	No	Own TG	2F	H	7.20	88.5	9x3x¼	T
24	TE	8½	6300	214	228	.....	10020	B9.75/22	DB9.75/22	Own SCM	6-4½x4¾	BL 735	U 5	No	Own CG	2F	H	7.20	87.6	10½x3x¼	T
25	(Eng.und.seat) UD	3	3350	97	145	.....	6740	P34x7	DP34x7	Own SD	6-4x4¾	Own T	U 4	No	Own H & D	2F	H	6.21	39.3	7¾x3¼	T
26	UDF	3½	3950	127	145	.....	7655	B9.00/20	DB9.00/20	Own SD	6-4x4¾	Own T	U 4	No	Own TE	2F	H	6.43	40.7	8x3x¼	T
27	UN	4	4650	96	163	.....	8635	B9.75/20	DB9.75/20	Own SCH	6-4¼x4¾	Own D	U 5	No	Own C & N	2F	H	7.20	45.6	8x3x¼	T
28	UNF	5	4850	128	163	.....	9200	B9.75/22	DB9.75/22	Own SCH	6-4¼x4¾	Own D	U 5	No	Own TF	2F	H	7.20	42.1	9x3x¼	T
29	US	5	5300	109	109	.....	9115	B9.75/22	DB9.75/22	Own SCH	6-4¼x4¾	Own T	U 4	No	Own CG&TG	2F	H	7.20	45.6	9x3x¼	T
30	UT	6	5900	128	163	.....	9660	B10.50/22	DB10.50/22	Own SCM	6-4½x4¾	Own D	U 5	No	Own CG&TG	2F	H	7.20	45.6	9x3x¼	T
31	UTE	8½	6300	145	163	.....	10525	B9.75/22	DB9.75/22	Own SCM	6-4½x4¾	Own T	U 4	A 3	Own CG&TG	2F	H	7.20	45.6	10½x3x¼	T
32	Available W-120	1½	1245	Op	Op	11400	4000	B6 50/20	DB6.50/20	Wau BL	6-3½x4¼	WG T9	U 4	No	Tim 53200	SF	H	6.6	42.2	10x2½x½	TX
33	W-170	2½	1620	Op	Op	13400	4700	B7.50/20	DB7.50/20	Wau BL	6-3½x4¼	WG T9	U 4	No	Tim 54300	SF	R	6.8	43.5	10x2½x½	TX
34	W-210	2½	1720	Op	Op	13400	4800	B7.50/20	DB7.50/20	Wau BK	6-3¾x4¼	BL 234	U 4	No	Tim 54300	SF	R	6.8	43.5	10x2½x½	TX
35	W240	3	1975	Op	Op	16300	5500	B8.25/20	DB8.25/20	Wau 6-110	6-4x4¾	Fu 5A-380	U 5	No	Tim 58205	SF	R	7.8	54.6	12x2½x¼	TX
36	W300	3½	2750	Op	Op	20700	7000	B9.00/20	DB9.00/20	Wau 6-110	6-4x4¾	Fu 5A-380	U 5	No	Tim 58205	SF	R	7.8	54.6	12x2½x¼	TX
37	W400	4	3750	Op	Op	25500	8200	B9.75/20	DB9.75/20	Wau 6-125	6-4½x5½	BL 615	U 5	No	Tim 65720H	WF	R	8.5	55.6	12x2½x¼	TX
38	Biederman 10	1–1½	895	130	160	6000	2800	B6.50/18	B6.50/18	Con 25A	6-3½x4	BL 124	U 4	No	Cla B373	BF	R	5.10	31.6	7x3x¼	T
39	20	1–1½	1195	145	175	8000	3200	B6.00/20	DB6.00/20	Con 25A	6-3½x4	BL 124	U 4	No	Cla B373	BF	R	6.37	39.4	7x3x¼	T
40	25	1½–2	1250	160	175	10000	3450	B6.50/20	DB6.50/20	Con 25A	6-3½x4	BL 124	U 4	No	Cla B373	BF	R	6.37	39.4	7x3x¼	T
41	30	1½–2	1495	163	178	12000	4100	B7.50/20	DB7.50/20	Con 25A	6-3½x4	BL 124	U 4	No	Cla B611	BF	R	6.37	39.4	7x3x¼	T
42	35	2–2½	1850	146	188	12000	4680	B7.50/20	DB7.50/20	Her JXC	6-3¾x4¼	BL 234	U 4	Op	Cla B611	BF	R	6.37	40.8	7x3x¼	T
43	40	2½–3	2100	158	188	16000	4840	B8.25/20	DB8.25/20	Her JXC	6-3¾x4¼	BL 234	U 4	Op	Cla B611	BF	R	6.37	40.8	8x3x¼	T
44	50	2½–3	2400	176	188	20000	5600	B9.00/20	DB9 00/20	Her JXC	6-3¾x4¼	BL 234	U 4	Op	Cla B805	BF	R	6.42	41.2	8x3x¼	T
45	55	3–3½	2750	180	200	20000	6450	B9.00/20	DB9 00/20	Con E602	6-4¼x4½	BL 524	U 4	Op	Cla B805	BF	R	6.42	46.7	8x3x¼	T
46	60	3½–5	3150	170	200	24000	6820	B9.75/20	DB9.75/20	Con E602	6-4¼x4½	BL 524	U 4	Op	Cla B805	BF	R	7.17	52.1	8x3x¼	T
47	70	3½–5	3600	150	210	24000	7530	B9.75/20	DB9 7 20	Con E602	6-4¼x4½	BL 524	U 4	Op	Wis 1237	2F	R	8.00	58.7	8x3½x¼	T
48	80	5–7	3900	150	210	28000	7800	B10.50/20	DB10.50/20	Con E603	6-4¼x4½	BL 524	U 4	Op	Wis 1237	2F	R	8.94	65.1	8x3½x¼	T
49	Brockway 80	1½–2	1185	149	168	10500	4035	B6.50/20	DB6.50/20	Con 26B	6-3½x4	Wa T9	U 4	No	Tim 53200H	SF	H	5.66	36.2	7½x2½x½	T
50	90	2–2½	1485	149	186	12500	4480	B7.00/20	DB7.00/20	Con 28B	6-3½x4⅝	Wa T9	U 4	No	Tim 54300H	SF	H	5.83	37.4	7½x2½x½	T
51	100	2–3	1800	168	200	15000	4985	B7.50/20	DB7.50/20	Con 28B	6-3½x4⅝	Fu	U 5	No	Tim 54300H	SF	H	5.83	46.0	7½x2½x½	T
52	120	2–3	2090	156	188	15000	5640	B7.50/20	DB7.50/20	Con 30B	6-4x4½	BL 314	U 4	No	Tim 54300H	SF	R	5.83	38.5	7½x3x¼	T
53	140	2½–3½	2690	156	200	17500	6385	B8.25/20	DB8.25/20	Con 30B	6-4x4½	BL 314	U 4	Op	Wis 4916L	2F	R	6.66	43.5	7¾x3x¼	T
54	150	2½–3½	2540	188	200	18500	6000	B8.25/20	DB8.25/20	Con 32B	6-4½x4½	Fu 5A38	U 5	Op	Tim 56270H	SF	R	5.71	35.0	7½x3x¼	T
55	141	3–4	3175	170	200	19500	7450	B9.00/20	DB9.00/20	Con 30B	6-4x4½	BL 314	U 4	Op	Wis 70000L	2F	R	7.0	46.2	8x3x¼	T
56	160	3½–4	3175	188	200	21000	7500	B9.00/20	DB9.00/20	Con 32B	6-4½x4½	Fu 5A38	U 5	Op	Tim 58205H	SF	R	6.14	48.5	8x3x¼	T
57	170	3–4	3450	170	212	19500	7700	B9.00/20	DB9.00/20	Con 33B	6-4½x4¾	BL 5352	U 5	Op	Wis 70000L	2F	R	5.78	44.5	8x3x¼	T
58	175	3–4	3850	170	224	24000	7900	B9.00/20	DB9.00/20	Con 34B	6-4¾x4¾	BL 5352	U 5	Op	Wis 70000L	2F	R	5.78	44.5	8x3x¼	T
59	195	5	4000	170	224	24000	8540	B9.75/20	DB9.75/20	Con 33B	6-4½x4¾	BL 5352	U 5	Op	Wis 1337BH	2F	R	5.75	43.2	8½x3x¼	T
60	220	7½	4700	170	224	28000	8980	B10.50/20	DB10.50/20	Con 34B	6-4¾x4¾	BL 5352	U 5	Op	Wis 1737KH	2F	R	5.63	43.4	8½x3x¼	T
61	260	7½–10	5850	212	240	30000	9585	B10.50/22	DB10 50/22	Con 35B	6-4½x5¼	Fu MHU	U 4	Op	Wis 1737KH	2F	R	8.05	50.7	8½x3x¼	T
62	260S	10	6200	212	240	34000	10075	B10.50/24	DB10.50/24	Con 35B	6-4½x5¼	Fu MHU	U 4	Op	Wis 1737KH	2F	R	8.05	50.7	8½x3x¼	B
63	V-1200	15	10500	156	240	60000	12400	B11.25/22	DB11.25/22	A La F V12	12-4x5	BL 7351	U 5	Op	Wis 1910W	2F	R	7.95	49.8	10x3x¼	C
64	Chevrolet Comm'l	½	330	109	109	4100	1995	B5.25/18	B5.25/18	Own	6-3¼x4	Own	U 3	No	Own	S½	U	4.11	12.4	5x2¼x¼	C
65	Utility	1½	480	131	131	8300	2830	P30x5	P32x6	Own	6-3¼x4	Own	U 4	No	Own	S½	U	5.43	39.2	6½x2½x¼	C
66	Utility	1½	510	157	157	8300	2920	P30x5	P32x6	Own	6-3¼x4	Own	U 4	No	Own	S½	U	5.43	39.2	7x2½x¼	C
67	Coleman E52	2½	3800	120	144	12800	7200	B9.00/24	B9.00/24	Bud K393	6-4¼x4¾	Fu RU 16	U 4	A 2	Wis CR15	2F	H	Opt	Opt	10x2½x½	B
68	(all 4 Wh.Dr.) E53	3½	5300	130	180	18900	8000	B9.75/24	B9.75/24	Bud K428	6-4⅝x4¾	Fu MRU16	U 4	A 2	Wis CR26	2F	H	Opt	Opt	12x2½x½	B
69	E54	4–5	5600	130	180	20400	8800	B10.50/24	B10.50/24	Bud L468	6-4¼x5½	Fu MRU16	U 4	A 2	Wis CR30	2F	H	Opt	Opt	12x2½x1½	B
70	E55	5	6150	130	180	23000	9600	B11.25/24	B11.25/24	Bud L525	6-4½x5½	Fu MRU16	U 4	A 2	Wis CR30	2F	H	Opt	Opt	12x2½x1½	B
71	E55S	5–6	7200	144	180	24500	10600	B11.25/24	B11.25/24	Bud L525	6-4½x5½	Fu MHU16	U 4	A 2	Wis CR122	2F	H	Opt	Opt	12x2½x1¼	B
72	E56	6–7½	7800	144	180	29800	11600	B10.50/24	DB10.50/24	Bud GF6	6-4¾x6	Fu MHU	U 4	A 2	Wis CR122	2F	H	Opt	Opt	12x2½x1¼	B
73	E57	7½–10	9700	144	180	32000	12400	B11.25/24	DB11.25/24	Ste LT6	6-5¼x6	BL 714	U 4	A 2	Wis CR122	2F	H	Opt	Opt	16x3x1¼	B
74	Corbitt (3) 8B4	1½	980	134	134	8500	3200	B6.00/20	P32x6	Con W10	4-3⅞x4¼	Ow 8T	U 4	No	Own 8R	SF	H	5.4	38.4	5½x3x¼	P
75	8B6	1½	1080	136	136	8500	3275	B6.00/20	P32x6	Con 25A	6-3½x4	Ow 8T	U 4	No	Own 8R	SF	H	5.4	38.4	5½x3x¼	P
76	10B6	1½–2	1310	171	191	.....	3950	B6.50/20	DB6.50/20	Con 25A	6-3½x4	BL 214	U 4	No	Tim 53200H	SF	H	Op	Op	5½x3½x¼	T
77	9B6	1½–2½	2185	152	183	.....	4200	P32x6	DP32x6	Con 20C	6-3¾x4⅝	BL 224	U 4	No	Tim 54200H	SF	H	5.57	27.8	7x3½x¼	T
78	12B6	2–3	3060	163	220	.....	4870	B7.50/20	DB7.50/20	Con E601	6-3¾x4½	BL 334	U 4	No	Tim 56200H	SF	H	Opt	Opt	7x3½x¼	T
79	12W6	2–3	2950	165	220	.....	4910	B7.50/20	DB7.50/20	Con E601	6-3¾x4½	BL 334	U 4	No	Tim 64800H	WF	H	Opt	Opt	7x3½x¼	T
80	15B6	2½–3½	3740	174	220	.....	5870	P34x7	DP34x7	Con E601	6-3¾x4½	BL 334	U 4	No	Tim 58200H	SF	H	Opt	Opt	7x3½x¼	T
81	15W6	2½–3½	3850	183	224	.....	6160	P34x7	DP34x7	Con E601	6-3¾x4½	BL 334	U 4	No	Tim 65200H	w/2f	H	Opt	Opt	7x3½x¼	T
82	18	2½–4	4400	178	230	.....	8100	P36x8	DP36x8	Con E602	6-4¼x4½	BL 334	U 4	No	Tim 65720H	w/2f	H	Opt	Opt	8x3½x¼	T
83	24	3½–5	5115	195	230	.....	9200	B9.75/20	DB9.75/20	Con E603	6-4¼x4½	BL 60	A 7	No	Tim66720H	w/2f	H	Opt	Opt	8x3½x¼	T
84	33	5–7½	6160	195	230	.....	10000	P40x10	DP40x10	Con 21R	6-4⅜x4¼	BL 60 Max	A 7	No	Tim68720TW	w/2f	H	Opt	Opt	8x3x¼	T
85	(T)10B6T	3–5	1650	(3)	(3)	.....	3950	B6.50/20	DB6.50/20	Con 20C	6-3½x4½	BL 224	U 4	No	Tim 53200H	SF	H	Opt	Opt	5¾x3½x¼	T
86	(T)9B6T	4–6	2600	(3)	(3)	.....	4200	B7.50/20	DB7.50/20	Con E601	6-4¼x4½	BL 334	U 4	No	Tim 54200H	SF	H	Opt	Opt	7x3½x¼	T
87	(T)12BT6	4–7	3465	(3)	(3)	.....	4870	B8.25/20	DB8.25/20	Con E602	6-4½x4½	BL 335	U 4	No	Tim 56200H	SF	H	Opt	Opt	7x3½x¼	T
88	(T)15B6T	5–8	4875	(3)	(3)	.....	5870	B9.00/20	DB9.00/20	Con 21R	6-4⅜x4¼	BL 335	U 5	No	Tim 58200H	SF	H	Opt	Opt	7x3½x¼	T
89	(T)18D6T	8–10	5500	(3)	(3)	.....	8100	B9.75/20	DB9.75/20	Con 22R	6-4⅜x5¼	BL 535	U 5	No	Tim 75720H	2F	H	Opt	Opt	8x3½x¼	T
90	(T)24D6T	10–15	6500	(3)	(3)	.....	9200	B10.50/20	DB10.50/20	Con 16H	6-4⅜x5¾	BL 7212	U 4	U3	Tim 66720W	2F	H	Opt	Opt	8x3x¼	C
91	Day-Elder (4) 75	1½	945	135	156	6000	3300	B6 00/20	B6.50/20	Her JXA	6-3¾x4¼	WG T9	U 4	No	Tim 53200H	BF	H	5.66	36.2	5¾x3¼x¼	C
92	85	1½–2	1195	135	168	8500	3850	B6.00/20	DB6.50/20	Her JXB	6-3¾x4¼	WG T9	U 4	No	Tim 53200H	BF	H	6.60	42.2	5¾x3¼x¼	C
93	110	2	1495	156	186	11000	4800	B7.00/20	DB7.00/20	Her JXC	6-3¾x4¼	WG T9	U 4	No	Tim 54200H	BF	H	6.80	43.5	7x3¼x¼	C
94	130	2½	1995	157	199	13000	6600	B7.50/20	DB7.50/20	Her WXC	6-4x4½	BL 334	U 4	No	Tim 56200H	BF	H	6.17	37.9	7x3¼x¼	C
95	160	3	2445	165	204	16000	6800	B7.50/20	DB9.00/20	Her WXC3	6-4¼x4½	BL 334	U 4	No	Tim 58200H	BF	R	6.75	41.4	9x3½x¼	C
96	200	4	2895	165	204	20000	7600	B9.00/20	DB9.00/20	Her WXC3	6-4¼x4½	BL 334	U 4	No	Tim 65720H	WF	R	7.75	47.6	9x3½x¼	C
97	240	5	3895	162	234	24000	9500	B10.50/20	DB10.50/20	Her RXC	6-4½x5¼	BL 534	U 4	No	Tim 66720H	WF	R	9.50	60.3	10x3¼x¼	C
98	Diamond T 210SF	1½	575	135	158	8500	3250	B5.50/20	B6.50/20	Her JXA	6-3½x4¼	WG T9	U 4	No	Cla B364	S½	H	5.4	34.6	7x2¼x½	T
99	210FF	1½	595	135	158	8500	3250	B5.50/20	B6.50/20	Her JXA	6-3¾x4¼	WG T9	U 4	No	Cla B373E	SF	H	Opt	Opt	7x2¼x½	T
100	211SF	1½	595	135	158	8500	3250	B5.50/20	B6.50/20	Her JXA	6-3¾x4¼	WG T9	U 4	No	Cla B364	S½	H	5.4	34.6	7x2¼x½	T
101	211FF	1½	615	135	158	8500	3250	B5.50/20	B6.50/20	Her JXA	6-3¾x4¼	WG T9	U 4	No	Cla B373E	SF	H	Opt	Opt	7x2¼x½	T
102	226	1½	725	135	158	10000	3500	B6.00/20	DB6.00/20	Her JXA	6-3¾x4¼	WG T9	U 4	No	Cla B410	SF	H	Opt	Opt	7x2¼x½	T
103	241	1¾	825	137	179	10000	3500	B6.00/20	P32x6	Her JXA	6-3¾x4¼	WG T9	U 4	No	Cla B410	SF	H	Opt	Opt	8x3x½	T
104	(Cont.) 311	2	1025	155	179	12000	4200	B6.50/20	DB6.50/20	Her JXB	6-3½x4¼	WG T9	U 4	No	Cla B613	SF	H	Opt	Opt	8x3x½	T

TRUCK SPECIFICATIONS TABLE

FOR MEANING OF ABBREVIATIONS AND EXPLANATION OF REFERENCE MARKS SEE PAGE 41

Line Number	ENGINE DETAILS: Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	Piston Material	MAIN BEARINGS: Number and Diameter	MAIN BEARINGS: Length	Oiling System Type	Governor Make	FUEL SYST.: Carburetors Make	FUEL SYST.: Fuel Feed	ELECTRICAL: Ignition System Make	ELECTRICAL: Generator, Starter Make	Clutch Type and Make	Radiator Make	Universals Make	FRONT AXLE: Make and Model	Steering Gear Make	BRAKES: SERVICE: Make, Location Type, Operation	BRAKES: SERVICE: Lining Area	BRAKES: SERVICE: Drum Material	BRAKES: Hand Location, Type	BODY MOUNTING DATA: Cab to Rear of Frame	BODY MOUNTING DATA: Cab to Rear Axle	BODY MOUNTING DATA: Width of Frame	SPRINGS: Front	SPRINGS: Rear	SPRINGS: Auxiliary Type
1	468	4.4	322	43.3	120–2200	H	C	A	4–2¾	10⅜	CC	Ha	Zen	V	DR	DR	P.BL	Lo	Spi	Tim 27451	Ros	O4IA	720	A	CD	172	102	33½	42x3	56x4	½
2	707	4.4	500	60.	175–2200	H	C	A	7–3¼	14⅜	CC	Ha	Zen	M	DR	DR	dp.Lo	Lo	Spi	Tim 27451	Ros	O4IA	720	A	CD	172	102	33½	42x3	56x4	½
3	707	4.4	500	60.	175–2200	H	C	A	7–3¼	14⅜	CC	Ha	Zen	M	DR	DR	dp.Lo	Lo	Spi	Tim 27451	Ros	O4IA	816	A	CD	172	102	33½	42x3	56x4	½
4	248	5.0	150	27.3	65–2600	L	G	C	7–2⅝	10⅜	FP	No	Str	M	DR	DR	D.BL	Yo	Spi	Tim	Ros	L4IH	380	G	TX	129½	Opt	31½	40x2½	50x3	½
5	339	4.7	225	38.4	73–2200	L	G	C	7–2⅝	13¼	PC	Mo	Str	M	AL	AL	D.BB	Yo	Spi	Tim	Ros	L4IHV	452	G	TX	129½	Opt	31½	40x2½	50x3	½
6	339	4.7	225	38.4	73–2200	L	G	C	7–2⅝	13¼	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Tim	Ros	L4IHV	578	G	TX	106	Opt	31½	40x2½	62⅝x2½	N
7	339	4.7	225	38.4	73–2200	L	G	C	7–2⅝	13¼	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Tim	Ros	L4IHV	658	G	TX	106	Opt	31½	40x2½	62⅝x2½	N
8	360	4.7	238	40.3	80–2200	L	G	C	7–3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	768	H	TX	106	Opt	31½	41x2½	62⅝x2½	N
9	529	4.4	355	51.2	115–2200	L	G	C	7–3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Own	Ws4IA	847	G	TD	118	Opt	31½	41x2½	62⅝x3	N
10	428	4.4	280	45.9	93–2200	L	G	C	7–3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	893	H	TD	93¼	Opt	31½	41x2½	62⅝x3	N
11	478	4.4	318	51.2	103–2200	L	G	C	7–3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	893	H	TD	92¼	Opt	31½	41x2½	62⅝x3	N
12	529	4.4	355	51.2	115–2200	L	G	C	7–3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	893	H	TD	93¼	Opt	31½	41x2½	62⅝x3	N
13	314	5.2	213	33.7	75–2400	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 31000	Ros	LO4IDV	450	e	2I	124¼	60¾	34½	40x2½	54x3	½
14	358	5.2	240	38.4	84–2500	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 33000	Ros	LO4IDV	450	e	2I	115¼	60¾	34½	40x2½	54x3	½
15	358	5.2	240	38.4	84–2500	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 35000	Ros	LO4IDV	519	e	2I	115¼	60¾	34½	42½x3	54x3	½
16	358	5.2	240	38.4	84–2500	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 35000	Ros	LO4IDV	519	e	2I	115¼	60¾	34½	42½x3	54x3	½
17	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 35000	Ros	LO4IDV	519	e	FD	174⅜	102¼	34½	40x2½	54x3	½
18	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 35000	Ros	LO4IDV	519	e	FD	174⅜	61¾	34½	40x2½	54x3	½
19	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 26450	Ros	LO4IDV	543	e	FD	122½	82¼	34½	42½x3	54⅜x4	½
20	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 27450	Ros	LO4IDV	660	e	FD	121¾	71½	34½	42½x3	54⅜x4	½
21	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Own SCH	Ros	O2IMV	502	e	FD	88½	158⅛	34½	42½x3	55x4	½
22	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 26450	Ros	BO4IMV	670	e	FD	119½	210	34½	42½x3	54⅜x4	½
23	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 26450	Ros	O4IA	543	e	FD	175½	102¾	34½	42½x3	54⅜x4	½
24	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 26450	Ros	O4IA	543	e	FD	223	127½	34¼	42½x3	54⅜x4	½
25	358	5.2	240	38.4	84–2500	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 35000	Ros	LO4IDV	450	e	2I	112	72½	34	41x2¼	53x3	½
26	358	5.2	240	38.4	84–2500	L	G	C	7–3	12⅝	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 35000	Ros	LO4IDV	519	e	2I	112	102¼	34	41x2¼	53x3	½
27	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 26450	Ros	LO4IDV	543	e	FD	124	71¼	34	41½x3	53x3	½
28	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 26450	Ros	LO4IDV	543	e	FD	124	103¼	34	41½x3	53x3	½
29	404	5.1	271	43.4	94–2500	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 26450	Ros	LO4IDV	543	e	FD	121¼	84½	34	41x3	53½x4	½
30	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 27450	Ros	O4IA	599	e	FD	121¼	103¼	34	41x3	53½x4	½
31	453	5.1	309	48.6	101–2400	L	G	C	7–3	14½	FP	Ow	Str	M	DR	DR	dp.Lo	GO	Spi	Tim 27450	Ros	O4IA	599	e	FD	104	120¼	34	41x3	53½x4	½
32	245	5.1	165	29.4	73–3000	L	G	A	7–2⅝	10¼	FP	No	Zen	M	DR	DR	P.Lo	Ch	Blo	Tim 30000	Ros	L4IH	269	a	TX	Opt	Opt	32	42½x2¼	58x2½	N
33	245	5.1	165	29.4	73–3000	L	G	A	7–2⅝	10¼	FP	Wa	Zen	M	DR	DR	P.Lo	Ch	Blo	Tim 31000	Ros	L4IH	330	a	TX	Opt	Opt	32	42½x2¼	58x2½	N
34	282	5.1	188	33.8	85–3200	L	G	A	7–2⅝	10¼	FP	Wa	Zen	M	DR	DR	P.BL	Ch	Blo	Tim 31000	Ros	L4IH	330	a	TX	Opt	Opt	32	42½x2¼	58x2½	N
35	282	5.1	188	33.8	85–3200	L	G	A	7–2⅝	10¼	FP	Wa	Zen	M	DR	DR	P.BL	Ch	Blo	Tim 33000H	Ros	L4IH	330	a	TX	Opt	Opt	32	42½x2½	58x3	N
36	358	5.1	254	38.4	110–2800	F	G	A	7–2H	12⅛	FP	Wa	Ma	M	DR	DR	P.BB	Ch	Blo	Tim 35000H	Ros	L4IH	376	a	TD	Opt	Opt	32	42½x2½	58x3	N
37	462	5.0	324	45.9	125–2600	F	G	A	7–3	13¼	FP	Wa	Str	M	DR	DR	P.BL	Ch	Blo	Tim 35000H	Ros	L4IHV	462	E	FD	Opt	Opt	32	42½x2½	58x3	N
38	215	5.0	142	27.3	72–3000	L	G	A	4–2⅛	6⅜	CC	No	Zen	M	DR	DR	P.BL	Lo	MM	C1F 212	Ros	L4IH	312	pG	TX	89	54	36	47x2¼	50x2½	N
39	215	5.0	142	27.3	72–3000	L	G	A	4–2⅛	6⅜	CC	No	Zen	M	DR	DR	P.BL	Lo	MM	C1F 212	Ros	L4IH	312	pG	TX	117	69	36	47x2¼	50x2½	N
40	215	5.0	142	27.3	72–3000	L	G	A	4–2⅛	6⅜	CC	No	Zen	M	DR	DR	P.BL	Lo	MM	C1F 212	Ros	L4IH	312	pG	TX	132	84	36	47x2¼	50x2½	N
41	215	5.0	142	27.3	72–3000	L	G	A	4–2⅛	6⅜	CC	No	Zen	M	DR	DR	P.BL	Lo	MM	C1F 304	Ros	L4IH	414	pG	TX	135	87	36	47x2¼	50x3	N
42	282	5.0	194	34.0	84–2800	L	G	N	7–2½	10¼	CC	No	Zen	M	DR	DR	P.BL	Pe	MM	C1F 304	Ros	L4IH	414	pG	TX	114	66	36	47x2¼	50x3	N
43	282	5.0	194	34.0	84–2800	L	G	N	7–2½	10¼	CC	No	Zen	M	DR	DR	P.BL	Pe	MM	C1F 304	Ros	L4IH	414	pG	TX	126	78	36	47x2¼	50x3	N
44	282	5.0	194	34.0	84–2800	L	G	N	7–2½	10¼	CC	No	Zen	M	DR	DR	P.BL	Pe	MM	C1F 318	Ros	L4IH	490	pG	CX	144	96	36	47x2½	60x3	N
45	361	4.6	240	40.0	98–2500	L	G	N	7–2⅝	12¼	CC	Pe	Zen	M	DR	DR	P.BL	Pe	MM	C1F 318	Ros	L4IH	490	pG	CX	147	99	36	47x2½	60x3	N
46	361	4.6	240	40.0	98–2500	L	G	N	7–2⅝	12¼	CC	Pe	Zen	M	DR	DR	P.BL	Pe	MM	C1F 318	Ros	L4IH	490	pG	CX	137	89	36	47x2½	60x3	N
47	361	4.6	240	40.0	98–2500	L	G	N	7–2⅝	12¼	CC	Pe	Zen	M	DR	DR	P.BL	Pe	MM	Tim 35120	Ros	L4IH	616	G	CX	104	69	36	47x2½	60x3	N
48	383	4.6	252	44.0	105–2500	L	G	N	7–2⅝	12¼	CC	Pe	Zen	M	DR	DR	P.BL	Pe	MM	Tim 35120	Ros	L4IH	616	G	CX	104	69	36	47x2½	60x4	N
49	214	4.9	142	27.3	72–3200	L	C	A	4–2⅜	6⅜	CC	No	Zen	M	AL	AL	P.BB	GO	Spi	Col 4007	Ros	L4IH	248	G	TX	111	65	34	37x2¼	52x2½	½
50	248	4.9	170	27.3	78–3100	L	C	C	7–2⅜	10⅛	CC	No	Zen	M	AL	AL	P.BB	GO	Spi	Col 5500A8	Ros	L4IH	365	G	CD	111	65	34	37x2¼	52x2½	½
51	248	4.9	170	27.3	78–3100	L	C	C	7–2⅜	10⅛	CC	No	Zen	M	AL	AL	P.Li	GO	Spi	Col 5500A9	Ros	L4IH	365	G	CD	141	84	34	37x2¼	52x2½	½
52	311	4.2	196	38.4	73–2400	H	C	N	7–2¾	13⅛	CC	No	Zen	M	AL	AL	D.BL	GO	Spi	Col 5500A7	Ros	L4IH	365	G	CD	108	69	34	40x2½	54x2½	½
53	311	4.2	196	38.4	73–2400	H	C	N	7–2¾	13⅛	CC	KP	Zen	M	AL	AL	D.BL	GO	Spi	Col 5500A7	Ros	L4IHV	365	G	CD	108	69	34	40x2½	54x3	½
54	360	4.5	240	40.8	90–2500	L	G	N	7–2⅝	13	CC	KP	Zen	M	AL	AL	P.Li	GO	Spi	Col 5500A7	Ros	L4IHV	365	G	CD	168	101	34	40x2½	54x3	½
55	311	4.2	196	38.4	73–2400	H	C	N	7–2¾	13⅛	CC	KP	Zen	M	AL	AL	D.BL	GO	Spi	Shu 15582B13	Ros	L4IHV	407	G	CD	142	83	34	40x2½	54x3	½
56	360	4.5	240	40.8	90–2500	L	G	N	7–2⅝	13	CC	KP	Zen	M	AL	AL	P.Li	GO	Spi	Shu 15582B13	Ros	L4IHV	407	G	CD	168	101	34	40x2½	54x3	½
57	381	4.4	276	40.8	104–2400	H	C	N	7–2¾	13⅛	CC	KP	Zen	M	AL	AL	D.BL	GO	Spi	Shu 15582B13	Ros	L4IHV	407	G	CD	142	83	34	40x2½	54x3	½
58	427	4.2	308	45.9	115–2400	H	C	N	7–2¾	13⅛	CC	KP	Zen	M	AL	AL	D.BL	GO	Spi	Shu 15682B11	Ros	L4IHV	407	G	CD	142	83	34	40x2½	54x3	½
59	381	4.4	276	40.8	104–2400	H	C	N	7–2¾	13⅛	CC	KP	Zen	M	AL	AL	D.BL	GO	Spi	Shu 15682B11	Ros	L4IHV	500	G	CD	142	83	34⅛	40x2½	54x3	½
60	427	4.2	308	45.9	115–2400	H	C	N	7–2¾	13⅛	CC	KP	Zen	M	AL	AL	D.BL	GO	Spi	Shu 15692B12	Ros	L4IHV	550	G	CD	142	83	34⅓	40x2½	54x3	½
61	501	4.3	350	48.6	125–2200	H	C	A	7–2¾	13⅞	CC	KP	Zen	M	AL	AL	D.Fu	GO	Spi	Shu 15692B12	Ros	L4IHV	550	G	CD	210	125	34¼	40x2½	54x3	½
62	501	4.3	350	48.6	125–2200	H	C	A	7–2¾	13⅞	CC	KP	Zen	M	AL	AL	D.Fu	GO	Spi	Shu 15692B12	Ros	Lw4IDV	600	G	CD	210	125	34¼	40x2½	54x3	½
63	753	5.1	505	76.4	240–2800	H	C	A	4–3½	9¾	FP	Ala	Zen	V	DR	DR	dp.BL	GO	Spi	Tim 27452 A1	Ros	Ws4IA	558	G	CD	192	112	32	40x3	54x3½	½
64	207	5.2	146	26.3	56–2750	H	G	C	3–2	5	PG	No	Car	M	DR	DR	P.Ow	Hr	Own	Own	Own	O4IM	129	p	4I	....	27⅛	....	36x1¾	54x1¾	½
65	207	5.2	146	26.3	56–2750	H	G	C	3–2	5	PG	No	Car	M	DR	DR	P.Ow	Hr	Own	Own	Own	O4IM	184	p	4I	85⅛	50¼	37	36x1¾	45x2½	½
66	207	5.2	146	26.3	56–2750	H	G	C	3–2	5	PG	No	Car	M	DR	DR	P.Ow	Hr	Own	Own	Own	O4IM	184	p	4I	111⅛	76¾	37	36x1¾	45x2½	½
67	393	4.9	260	42.0	103–2600	L	G	C	7–3	11½	FP	Ha	Zen	P	DR	DR	D.Fu	Pe	Spi	Wis CF15	Ros	W2/41M	476	p	TD	108	78	30	48x3	48x3	C
68	428	4.7	280	45.9	107–2600	L	G	C	7–3	11½	FP	Ha	Zen	P	DR	DR	D.Fu	Pe	Spi	Wis CF25	Ros	W2/41M	476	p	TD	144	89	30	48x3	48x3	C
69	468	4.8	295	43.4	108–2200	L	G	C	7–3	11½	FP	Ha	Zen	P	DR	DR	D.Fu	Pe	Spi	Wis CF30	Ros	W2/41M	476	p	TD	144	89	30	48x3	48x3	C
70	525	4.9	336	48.2	114–2200	L	G	C	7–3	11½	FP	Ha	Zen	P	DR	DR	D.Fu	Pe	Spi	Wis CF30	Ros	W2/41M	476	p	TD	144	89	30	48x3	48x3	C
71	525	4.9	336	48.2	114–2200	L	G	C	7–3	11½	FP	Ha	Zen	P	DR	DR	D.Fu	Pe	Spi	Wis CF122	Ros	W2/41M	530	G	TD	168	105	30	48x3½	52x3½	C
72	638	4.3	410	54.1	126–1850	L	G	C	4–3	10⅛	FP	Bu	Str	P	DR	DR	D.Fu	Pe	Spi	Wis CF122	Ros	W2/41M	530	G	TD	168	105	30	48x3½	52x3½	C
73	779	4.3	475	66.1	170–1800	L	G	A	7–3	13½	FP	St	Zen	P	NE	NE	dp.BL	Pe	Spi	Wis CF122	Ros	O2/4IA	530	G	TD	Opt	105	30	48x3½	5-x3½	C
74	200	4.7	125	24.0	49–2800	L	C	A	3–2⅛	5⅞	FP	No	Zen	M	DR	DR	P.BB	Pe	Spi	Own 8F	Ros	L4IH	268	p	TX	96	53	34	38x2¼	50x2½	N
75	214	4.9	142	27.3	72–3200	L	C	A	4–2⅜	6⅜	FP	No	Zen	M	DR	DR	P.BB	Pe	Spi	Own 8F	Ros	L4IH	268	p	TX	96	55	34	38x2¼	50x2½	N
76	214	4.9	142	27.3	72–3200	L	C	A	4–2⅜	6⅜	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 30020H	Ros	L4IH	287	p	TX	Opt	Opt	34	38x2¼	50x2½	½
77	248	5.0	160	27.3	78–3200	L	C	C	7–2⅜	10⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IH	327	a	TX	Opt	Opt	34	38x2¼	54x3	½
78	318	4.6	200	36.0	80–2700	L	C	C	7–2⅜	11⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	345	a	TX	134	82	34	40x2½	54x3	½
79	318	4.6	200	36.0	80–2700	L	C	C	7–2⅜	11⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	345	a	TX	134	82	34	40x2½	54x3	½
80	318	4.5	200	36.0	80–2700	L	C	C	7–2⅜	11⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	660	a	TD	144	88	34	40x2½	54x3	½
81	318	4.5	200	36.0	80–2700	L	C	C	7–2⅜	11⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	660	a	TD	144	97	34	40x2½	54x3	½
82	360	4.4	240	40.8	90–2500	L	C	C	7–2⅜	11⅛	FP	No	Zen	M	DR	DR	D.BL	Pe	Spi	Tim 35000H	Ros	L4IHV	768	a	TD	132	92	34	40x2½	54x3	½
83	383	4.5	236	43.3	95–2500	L	C	C	7–2⅜	11⅛	FP	No	Zen	M	DR	DR	D.BL	Pe	Spi	Tim 26450H	Ros	T4IHV	876	a	TD	162	109	34	46x3	60x3½	½
84	428	4.6	308	45.9	118–2600	H	C	C	7–2¾	13	FP	No	Zen	M	DR	DR	D.BL	Pe	Spi	Tim27450TW	Ros	T4IA	921	a	TD	162	109	34	46x3	56x4	½
85	248	5.0	160	27.3	78–3200	L	C	C	7–2⅜	10⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 30020H	Ros	L4IHV	380	p	TX	(3)	(3)	34	38x2¼	50x2½	½
86	318	4.6	200	36.0	80–2700	L	C	C	7–2⅜	11⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IHV	452	a	TX	(3)	(3)	34	38x2¼	54x3	½
87	360	4.4	240	40.8	90–2500	L	C	C	7–2¾	11⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IHV	578	a	TD	(3)	(3)	34	40x2½	54x3	½
88	428	4.6	308	45.9	118–2600	H	C	C	7–2¾	13	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IHV	660	a	TD	(3)	(3)	34	40x2½	54x3	½
89	500	4.5	340	48.6	138–2500	H	C	A	7–2¾	13⅛	FP	No	Zen	M	DR	DR	D.BL	Pe	Spi	Tim 35000H	Ros	L4IHV	768	a	TD	(3)	(3)	34	40x2½	54x3	½
90	611	4.5	384	54.1	127–2300	L	G	A	7–3	13⅛	FP	No	Zen	M	DR	DR	dp.BL	Pe	Spi	Tim 26450W	Ros	Ws4IA	921	a	TD	(3)	(3)	34	46x3	60x3½	½
91	228	4.4	142	27.3	59–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	DR	DR	P.BB	GO	Spi	Tim 30000H	Ros	L4IH	269	a	XF	106½	58½	34	40x2¼	54x2½	½
92	263	4.4	164	31.5	68–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	DR	DR	P.BB	Pe	Spi	Tim 30000H	Ros	L4IH	269	a	XF	104½	56½	34	40x2¼	54x2½	½
93	282	4.4	176	33.7	73–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	DR	DR	P.BB	Pe	Spi	Tim 31000H	Ros	L4IH	282	a	XF	130½	78½	33½	40x2¼	54x3	½
94	339	4.7	234	38.4	94–2800	L	G	C	7–2⅝	13¼	PC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	353	a	DF	121	70	33½	40x2¼	54x3	½
95	383	4.7	265	43.3	106–2800	L	G	C	7–2⅝	13¼	PC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	395	a	DF	131	79½	34	42x2½	56x3	½
96	383	4.7	265	43.3	106–2800	L	G	C	7–2⅝	13¼	PC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L4IH	484	a	DF	131	79½	34	42x2½	56x3	½
97	529	4.4	350	51.3	114–2200	L	G	A	7–3	12½	PC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 26450H	Ros	L4IH	692	a	DF	132	78	33	46x3	60x4	½
98	228	5.0	148	27.3	63–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	GO	Spi	Cla F212A	Ros	L4IH	224	a	TX	93	51½	34	42x2	50x2½	½
99	228	5.0	148	27.3	63–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	GO	Spi	Cla F212A	Ros	L4IH	252	a	TX	93	51½	34	42x2	50x2½	½
100	228	5.0	148	27.3	63–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	Mo	Spi	Cla F212A	Ros	L4IH	224	a	TX	93	51½	34	42x2	50x2½	½
101	228	5.0	148	27.3	63–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	Mo	Spi	Cla F212A	Ros	L4IH	252	a	TX	93	51½	34	42x2	50x2½	½
102	228	5.0	148	27.3	63–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	Mo	Spi	Cla F212A	Ros	L4IH	252	a	TX	93	51½	34	42x2	50x2½	½
103	228	5.0	148	27.3	63–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB	Mo	Spi	Cla F212A	Ros	L4IH	252	a	TX	96	54	34	42x2½	53x2½	½
104	263	5.4	164	31.5	68–2800	L	G	A	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BB.	Mo	Spi	Cla F308	Ros	L4IH	350	a	TX	126	72	34	42x2½	53x2½	½

Line Number	MAKE AND MODEL	GENERAL (See Keynote)						TIRE SIZE		MAJOR UNITS.										FRAME	
										ENGINE		TRANSMISSION			REAR AXLE			GEAR RATIOS			
		Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cylinders Bore and Stroke	Make and Model	Location and Forward Speeds	Aux. Location and Speeds	Make and Model	Gear and Type	Drive and Torque	In High	In Low	Side Rail Dimensions	Type
1	Diamond T.....261	2	975	155	179	11000	4000	B6.50/20	DB6.50/20	Her JXA	6–3⅜x4¼	WG T9	U 4	No	Cla B613	SF	H	Opt	Opt	8x3x⅜	T
2	(Concluded)...351	2½	1225	155	179	14000	4700	B7.00/20	DB7.00/20	Her JXC	6–3¾x4¼	Cla R103	U 5	No	Cla B642	SF	H	Opt	Opt	8x3x⅜	T
3	.....326B	2½	1225	155	179	13000	4600	B7.00/20	DB7.00/20	Her JXB	6–3¾x4¼	WG T9	U 4	No	Cla B642	SF	H	Opt	Opt	8x3x⅜	T
4	.....326DR	2½	1395	155	179	13000	4600	B7.00/20	DB7.00/20	Her JXB	6–3¾x4¼	WG T9	U 4	No	Wis 4916L	2F	H	Opt	Opt	8x3x⅜	T
5	.....410A	3	1795	160	194	15000	5400	B7.50/20	DB7.50/20	Her WXC	6–4x4½	Cla R909	U 5	No	Cla B642	SF	H	Opt	Opt	6½x3x¼	P
6	376	3	1695	155	179	15000	5000	B7.50/20	DB7.50/20	Her JXC	6–3¾x4¼	Cla R103	U 5	No	Wis 4916L	2F	H	Opt	Opt	8x3x⅜	T
7	510	4	2095	168	201	18000	6400	B7.00/20	DB8.25/20	Her WXC	6–4x4½	Cla R909	U 5	No	Tim 58205H	SF	H	Opt	Opt	6½x3x¼	P
8	425	4	2395	160	194	18000	6200	B8.25/20	DB8.25/20	Her WXC	6–4x4½	Cla R909	U 5	No	Wis 70000	2F	R	Opt	Opt	6½x3x¼	P
9	.....603A	5	3300	169	230	20000	8100	B9.00/20	DB9.00/20	Her YXC	6–4⅜x4¾	Co SA5	A 5	Op	Wis 1237H	2F	R	Opt	Opt	6½x3x¼	P
10	525	5	2695	168	201	20000	7200	B9.00/20	DB9.00/20	Her WXC3	6–4¼x4½	Cla R909	U 5	No	Wis 1237H	2F	R	Opt	Opt	6½x3x¼	P
11	740	5–6	3900	178	232	22000	8500	B9.75/20	DB9.75/20	Her RXB	6–4½x5½	Co SA5	A 5	Op	Wis 1237H	2F	R	Opt	Opt	7½x3½x⅜	P
12	750	5–7	4600	178	232	28000	10000	B9.75/22	DB9.75/22	Her RXC	6–4½x5½	Co SA5	A 5	Op	Wis 1737 KW	2F	R	Opt	Opt	7½x3½x⅜	P
13	.....750H	5–7	4200	178	232	28000	10000	B9.75/20	DB9.75/20	Her RXC	6–4½x5½	Co SA5	A 5	Op	Wis 1737H	2F	R	Opt	Opt	7½x3½x⅜	P
14	1515	7½	6800	171	Op	36000	12000	B10.50/24	DB10.50/24	Her HXB	6–5x6	BL 744	A 4	A 3	Wis 79730	2F	R	Opt	Opt	9x3½x¼	P
15	Differential...E-131	2½	3200	160	160	18100	5100	B9.00/20	DB9.00/20	Lyc ASD	6–3¾x4½	BL 314	U 4	No	Tim 58200	BF	H	7.8	51.4	12x2½x¼	P
16	Dodge Bros....HC	Com'l	340	111	111	.....	1775	B5.25/17	DB5.25/17	Own.....	6–3¾x4½	Own	U 3	No	Own	S½	H	4.37	12.2	5x2x⅜	X
17	.....HCL	Com'l	365	119	119	.....	1805	B5.25/17	Own		6–3¾x4½	Own	U 3	No	Own	S½	H	4.37	12.2	5⅜x2⅜x½	X
18	.....H20	¼–1	502	131	157	6075	2667	B7.00/20	DB7.00/20	Own	6–3¼x4⅜	Own	U 4	No	Own	SF	H	5.86	37.5	6⅜x2⅜x⅜	C
19	.....(5a) H30	1½–2	490	131	157	8400	2612	B6.00/20	P32x6	Own	6–3¼x4⅜	Own	U 4	No	Own	SF	H	5.85	37.4	6⅜x2⅜x⅜	C
20	.....H33	1½–3	795	136	165	11000	3350	B7.00/20	DB7.00/20	Own	6–3¼x4⅜	Own	U 4	No	Own	SF	H	6.37	46.0	8½x2½x⅜	C
21	.....H43	2–3	795	136	165	11000	3350	B7.00/20	DB7.00/20	Own	6–3¼x4⅜	Own	U 5	No	Own	SF	H	6.37	46.0	8½x2½x⅜	C
22	.....F-40	2–3½	1995	150	190	16000	5173	B6.50/20	DB6.50/20	Own	6–3⅝x5	Own	U 4	No	Own	SF	H	6.38	43.7	9½x3¼x⅜	C
23	.....	3–4	1515	135	185	12250	4235	P32x6	DP32x6	Own	6–3¾x4½	Own	U 4	No	Own	S½	H	7.13	46.3	7x2⅞x⅜	C
24	.....(5) F-61	3–5½	2575	170	195	20000	5789	P32x6	DP32x6	Own	6–3⅝x5	Own	U 4	No	Own	SF	H	7.12	48.8	10x3¼x⅜	C
25	.....(5) G-82	4–7½	5350	195	220	25000	8040	B9.75/20	DB9.75/20	Own	8–3¼x5	Own	U 5	No	Own	SF	H	7.71	69.6	10⅜x3⅜x½	C
26	Duplex.....S	2½–3	3600	160	Op	15000	5600	B8.25/20	DB8.25/20	Bud K325	6–3½x4¾	BL 324	U 4	No	Tim 65200	WF	H	6.75	36.2	6x3½x¼	C
27	.....FAC	3½	4250	166	Op	16500	7200	S34x5	S36x8	Bud EBU-I	4–4¼x5½	BL 51	U 5	No	Tim 65706	WF	H	8.50	45.5	7x3½x¼	C
28	.....SAC	3½–4	4750	172	Op	18000	7400	B9.75/20	DB9.75/20	Bud K428	6–4⅝x4¾	BL 55	A 7	No	Tim 75720	WF	R	8.50	81.0	7x3½x¼	C
29	.....K	5	5200	172	Op	21000	8000	B10.50/20	DB10.50/20	Bud L525	6–4½x5½	BL 60	A 7	No	Tim 76725	w2F	R	Opt	Opt	8x3½x¼	C
30	.....M	5–7	7600	168	Op	28000	10000	P34x7	DS36x7	Bud GL6	6–4½x6	BL 70	A 7	No	Tim 68700	WF	R	Opt	Opt	9½x3½x½	C
31	Esco.....233	2–2½	2860	165	205	15000	5900	B7.50/20	DB7.50/20	Con E603	6–4¼x4½	Cl 105R	U 5	No	Cla B642	BF	H	5.75	40.7	6x3⅜x¼	C
32	Fageol.....102	1½–2½	1350	148	172	11200	4000	B6.00/20	DB6.00/20	Wau ZK	6–3¾x4¼	WG T9	U 4	No	Tim 53200H	BF	H	5.66	36.2	6x3⅜x¼	C
33	135	2–3	2050	161	177	13400	5400	B7.50/20	DB7.50/20	Wau 6–90	6–3⅝x4¾	BL 234	U 4	No	Tim 54200H	BF	H	5.83	37.3	6x3⅜x⅜	C
34	250	2½–4	2750	178	196	16300	7500	B8.25/20	DB8.25/20	Wau 6–110	6–4x4¾	BL 524	U 4	No	Tim 56200H	BF	H	6.16	40.6	8x3x¼	C
35	300	3–5	3400	178	196	20700	8200	B9.00/20	DB9.00/20	Wau 6–110	6–4x4¾	BL 524	U 4	No	Tim 58200H	BF	R	6.83	45.1	8x3x¼	C
36	370	5–6	5000	182	200	25300	9700	B9.75/20	DB9.75/20	Wau 6–125	6–4½x5½	BL 714	U 4	A 3	Tim 65720H	WF	R	5.69	139.	7½x3½x⅜	C
37	470	6–7	5500	182	200	33500	10100	B9.75/20	DB9.75/20	Wau 6-125	6–4½x5½	BL 714	U 4	A 3	Tim 66720	WF	R	5.69	139.	7½x3½x⅜	C
38	Federal.....DM	.....	900	120	120	8000	3050	B6.00/20	P32x6	Con W10	4–3¾x4¼	WG T9	U 4	No	Cla B374	SF	H	5.67	38.2	6x2⅜x¼	D
39	15	1½	695	137	174	10000	3500	B6.00/20	P32x6	Her JXA	6–3¾x4¼	WG T9	U 4	No	Cla B374	SF	H	6.38	40.8	8½x2⅜x⅜	T
40	20	2	1095	137	187	12000	3900	B6.50/20	DB6.50/20	Her JXB	6–3¾x4¼	WG T9	U 4	No	Tim 54200H	SF	H	6.80	43.5	8½x2⅜x⅜	T
41	25	2½	1395	137	201	14000	4500	B7.00/20	DB7.00/20	Her JXC	6–3¾x4¼	Cla R109	U 5	No	Cla B640	SF	H	6.38	45.2	8½x2½x⅜	T
42	.....T3W	2½	1595	148	185	14000	5110	P32x6	P36x8	Wau V	4–4x5	Own 7754	A 4	No	Tim 64603H	W½	R	7.25	36.3	6x3¼x¼	C
43	.....T3WDR	2½–3	1795	148	185	16000	5400	P32x6	DP32x6	Wau V	4–4x5	Own 7754	A 4	No	Tim 65001H	WF	R	8.75	43.8	6x3½x¼	C
44	30	2½–3	1945	175	237	16000	6050	B8.25/20	DB8.25/20	Wau 6MS	6–3¾x4¾	Cla R108	U 5	No	Cla B642	SF	H	6.43	45.5	10x3½x¼	C
45	40	3½–4	2340	175	237	19000	6550	B9.00/20	DB9.00/20	Wau 6MK	6–4½x4¾	Cla R908	U 5	No	Tim 58200H	SF	H	6.83	55.5	10x3½x¼	C
46	.....40DR	3½–4	2465	175	237	19000	6550	B9.00/20	DB9.00/20	Wau 6MK	6–4½x4¾	Cla R908	U 5	No	Tim 75200H	2F	H	7.0	56.9	10x3½x¼	C
47	.....T10B	3½–4	2550	165	230	19000	6645	P34x7	DP34x7	Con 18R	6–4x4½	Own 7784	A 4	No	Tim 58200H	SF	R	6.83	44.5	7½x3½x⅜	C
48	...T10DR-T10W	3½–4	2685	165	230	19000	6645	P34x7	DP34x7	Con 18R	6–4x4½	Own 7784	A 4	No	Tim 65200H	w/2F	R	6.75	44.0	7½x3½x⅜	C
49	.....A600T	3–3½	2045	157	206	17000	6100	B8.25/20	DB8.25/20	Con E601	6–3¾x4½	Own 7784	A 4	No	Tim 58000H	SF	H	7.8	50.8	6x3½x¼	C
50	.A600TDR-A600TW	3–3½	2180	157	206	17000	6100	B8.25/20	DB8.25/20	Con E601	6–3¾x4½	Own 7784	A 4	No	Tim 65001H	w/2F	H	7.5	48.9	6x3½x¼	C
51	.....U6-U6DR	4½–5	3860	165	230	22000	7420	P36x8	DP36x8	Con 20R	6–4¼x4¾	Cla B 710	A 5	No	Tim 65706H	w/2F	R	7.75	50.4	7½x3½x¼	C
52	.....C7-C7W	6	4485	195	249	26000	9550	B9.75/20	DB9.75/20	Con 21R	6–4⅜x4¾	Cla B 710	A 5	No	Tim 76736H	w/2F	R	7.89	51.3	7⅝x3½x⅜	C
53	.....C8-C8W	6	4895	195	249	26000	9650	B9.75/20	DB9.75/20	Con 21R	6–4⅜x4¾	Cla B 710	A 5	No	Tim 76736W	w/2F	R	7.89	51.3	7⅝x3½x⅜	C
54	.....X8DR-X8	7½	4335	162	186	30000	9750	S36x6	S40x14	Con B7	4–5x6	Cla B 710	A 5	No	Tim 68700DF	w/2F	R	11 7	76.0	9½x3½x½	C
55	.....X8RDR-X8R	7½	4735	162	186	30000	10475	P40x8	DP40x8	Con 21R	6–4⅜x4¾	Cla B 710	A 5	No	Tim 68702DF	w/2F	R	11.7	76.0	9½x3½x½	C
56	Ford Comm.....	.....	325	112	112	.....	1650	B5.50/17	B5.50/17	Own	4–3⅛x4¼	Own	U 3	No	Own	S¾	U	4.1	11.5	6x1¾x.105	C
57	.....Truck (14)	1½	470	131	131	.....	2770	B6.00/20	P32x6	Own	4–3⅛x4¼	Own	U 4	No	Own	S¾	U	6.6	42.2	7x2¾x⅜	C
58	.....Truck (14)	1½	500	157	157	.....	2880	B6.00/20	P32x6	Own	8–3⅛x3¾	Own	U 4	No	Own	S¾	U	6.6	42.2	7x2¾x⅜	C
59	.....Truck (14)	1½	530	131	131	.....	2858	B6.00/20	P32x6	Own	8–3⅛x3¾	Own	U 4	No	Own	S¾	U	6.60	42.2	7x2¾x⅜	C
60	.....Truck (14)	1½	560	157	157	.....	2968	B6.00/20	P32x6	Own	8–3⅛x3¾	Own	U 4	No	Own	S¾	U	6.60	42.2	7x2¾x⅜	C
61	.....Comm.	½	370	112	112	.....	1730	B5.50/17	B5.50/17	Own	8–3⅛x3¾	Own	U 3	No	Own	S¾	U	4.10	11.5	6x1¾x.105	C
62	FWD.....H4	1½–2	3325	120	160	11000	5300	P34x7	P34x7	Wis SU	4–4x5	Cot A	A 4	Op	Own H	BF	H	7.86	38.0	5⅞x2¼x⅜	C
63	(All 4Wh.Dr.) H6	2–2½	3385	133	180	13000	5900	P9.00/20	P9.00/20	Wau MS	6–3¾x4¾	BL 51	U 4	No	Own H	BF	H	8.92	47.7	5⅞x2¼x⅜	C
64	.....HH-6	2½–3	4135	138	170	16000	6900	P9.75/20	P9.75/20	Wau MK	6–4¼x4¾	BL 55	A 7	R 2	Own U	BF	H	6.95	84.7	5⅞x2¼x⅜	C
65	.....B	3	4200	124	156	15500	6460	S36x6	S36x6	Own A	4–4¾x5½	Cot DAF	A 3	Op	Own B	BF	H	8.9	35.6	5⅞x2¼x⅜	C
66	.....CU-6	3½–4	4985	147	179	19500	8000	B10.50/20	B10.50/20	Wau SRS	6–4⅛x5⅛	Own U	A 5	Op	Own U	BF	H	8.9	88.6	7x3x⅜	C
67	.....CU6A	3½–4	4685	147	179	19000	7800	B10.50/20	DB10.50/20	Wau SRS	6–4⅛x5⅛	BL 615	U 5	Op	Own U	BF	H	6.72	55.2	7x3x⅜	C
68	.....SSU	4–5	5135	147	179	22000	8300	B11.25/20	B11.25/20	Wau SRL	6–4⅝x5½	Own U	A 5	Op	Own U	BF	H	8.9	88.6	7x3x⅜	C
69	.....SSUA	4–5	4835	147	179	21500	8100	B11.25/20	B11.25/20	Wau SRL	6–4⅝x5½	BL 706	U 5	Op	Own M	BF	H	7.35	73	7x3x⅜	C
70	.....M5	5–7½	7400	165	195	29500	11200	B12.75/20	DB12.75/20	Wau SRK	6–4½x5½	BL 714	U 4	A 2	Wis 131W	2F	H	10.0	207.	8x3x⅜	C
71	.....MF5	5–6	5785	147	195	24500	9100	B10.50/20	DB10.50/20	Wau SRK	6–4½x5½	Own U	A 5	Op	Own M	BF	H	7.35	73.0	8x3x⅜	C
72	(Frt. Wh. Dr.)..LBU	5–6	4800	171	Op	23500	9000	B9.00/20	DB9.00/20	Wau SRS	6–4⅝x5½	BL 55	U 4	Op	Own U	D	H	7.35	39.5	7x3x⅜	C
73	.....M7	7½–10	8500	165	195	37000	12400	P40x10	DP40x10	Wau RB	6–5x5¾	BL 714	U 4	A 2	Wis 131W	2F	H	8.36	173.	10x3x⅜	C
74	.....(T)60-T	20–25	6300	134	Op	60000	10000	B10.50/20	DB10.50/20	Wau 125	6–4⅜x5½	Own U	A 5	Op	Own M	BF	H	7.35	73	7x3x⅜	C
75	.....(T)72-T	25–30	7000	120	Op	72000	10450	B9.75/20	DB9.75/20	Wau 125	6–4⅜x5½	BL 724	U 4	No	Wis 1237	2F	H	6.7	47.4	8x3x¼	C
76	General Mot. (6) T18	1½–2	645	131	157	8500	3130	P30x5	P32x6	Own 221	6–3⅛x4⅝	Own	U 4	No	Own	S½	U	5.43	35.7	7⅛x2⅝x¼	T
77	.....T23	2–3	795	131	166	10500	3420	B6.50/20	DB6.50/20	Own 221	6–3⅛x4⅝	Own	U 4	Op	Own	SF	H	5.67	37.3	7⅛x2⅝x¼	T
78	.....T-33L	2–3	1085	142	184	12500	4320	B6.50/20	DB6.50/20	Own 221	6–3⅛x4⅝	Own	U 4	Op	Own	SF	H	5.63	37.0	8x3x¼	T
79	.....T33	3–3½	1225	142	184	13000	4415	P32x6	DP32x6	Own 257	6–3⅛x4⅝	Own	U 4	Op	Own	SF	H	5.63	35.5	8x3x¼	T
80	.....T43	3½–4½	1525	142	184	16000	4935	P32x6	DP32x6	Own 257	6–3⅛x4⅝	Own	U 4	Op	Own	SF	H	6.57	41.4	8x3x¼	T
81	.....(T)T43T	7–9	1935	145	169	29200	5235	P32x6	DP32x6	Own 331	6–3¾x5	Own	U 4	No	Own	SF	H	6.57	40.6	8x3x¼	T
82	.....T51	4–5½	2480	155	200	19000	6090	P34x7	DP34x7	Own 331	6–3¾x5	Own	U 4	No	Own	SF	R	6.57	40.6	9x3½x⅜	TL
83	.....T51W	5–6½	2700	154	200	22000	6980	P34x7	DP34x7	Own 331	6–3¾x5	Own	U 4	Op	Own	WF	R	8.50	52.5	9x3½x⅜	TL
84	.....T51H	5–6½	2800	154	200	22000	6910	P34x7	DP34x7	Own 331	6–3¾x5	Own	U 4	Op	Own	2F	R	8.50	52.5	9x3½x⅜	TL
85	.....T61	5–6½	3710	154	200	22000	7380	B9.00/20	DB9.00/20	Own 400	6–4¼x5	Own	U 5	Op	Own	WF	R	8.50	69	9x3½x⅜	TL
86	.....T83	5–7½	4205	155	201	25000	7765	B9.00/20	DB9.00/20	Own 400	6–4¼x5	Own	U 5	Op	Own	WF	R	9.00	74.0	9x3½x⅜	TL
87	.....T-84	5–8	4745	171	204	28000	9170	B9.75/20	DB9.75/20	Own 400	6–4¼x5	Own	U 4	Op	Own	2F	R	8.5	53.9	9⅛x4x⅜	P
88	.....T-84SX	7½	5175	204	204	25000	9850	B10.50/20	DB10.50/20	Own 400	6–4¼x5	Own	U 4	No	Own	2F	R	10.1	64.2	9⅛x4x⅜	P
89	.....T85	6–8	5600	171	204	30000	10630	B9.75/20	DB9.75/20	Own 525	6–4½x5½	Own	U 4	Op	Own	2F	R	8.50	53.3	9⅛x4x⅜	P
90	.....T85H	8–9½	6195	171	204	34000	11060	B9.75/20	DB9.75/20	Own 525	6–4½x5½	Own	U 4	Op	Own	2F	R	9.30	58.3	9⅛x4x⅜	P
91	.....T110	10–12	8110	171	204	40000	12800	B10.50/24	DB10.50/24	Own 616	6–4⅞x5½	Own	U 4	A 3	Own	2F	R	9.30	116.	9⅛x4x⅜	P
92	Gramm.....AX4	1–1½	795	131	157	8000	3350	B6.50/20	B6.50/20	Con W10	4–3⅞x4¼	WG T9	U 4	No	Tim 53200H	BF	H	5.66	36.3	6x2¾x¼	C
93	.....AX6	1–1½	895	131	157	8000	3550	B6.50/20	B6.50/20	Con 25A	6–3⅜x4	WG T9	U 4	No	Tim 53200H	BF	H	5.66	36.3	6x2¾x¼	C
94	.....BX4	1½–2	895	131	210	10000	3525	B6.00/20	DB6.00/20	Con W10	4–3⅞x4¼	WG T9	U 4	No	Tim 53200H	BF	H	6.2	39.6	6x2¾x¼	L
95	.....BX6	1½–2	995	131	210	10000	3725	B6.00/20	DB6.00/20	Con 25A	6–3⅜x4	WG T9	U 4	No	Tim 53200H	BF	H	6.2	39.6	6x2¾x¼	L
96	.....BXF	1½–2	1495	131	210	10000	4000	B6.00/20	DB6.00/20	Lyc ASD	6–3¾x4½	BL 314	U 4	No	Tim 53200	BF	H	5.6	37	6x2¾x¼	L
97	.....B	1½	1295	140	196	12000	4150	B6.50/20	DB6.50/20	Lyc 4SL	6–3¼x4½	Co A4J	U 4	No	Tim 54200H	BF	H	5.83	37.1	6x2½x¼	L
98	.....BF	2–3	1695	140	210	12000	4300	B6.50/20	DB6.50/20	Lyc ACD	6–3¾x4½	BL 314	U 4	No	Tim 54200	BF	H	5.8	37.1	6x2½x¼	C
99	.....CX4	2–3	1095	131	210	12000	3950	B6.50/20	DB6.50/20	C n W20	4–4½x4¼	WG T9	U 4	No	Tim 54200H	BF	H	5.8	37.0	10x2¾x¼	C
100	.....CX6	2–3	1295	131	210	12000	4150	B6.50/20	DB6.50/20	Con 16C	6–3¼x6	WG T9	U 4	No	Tim 54200H	BF	H	5.8	37.0	10x2¾x¼	B
101	C	2–3	1795	160	224	14000	4820	B7.00/20	DB7.00/20	Lyc AS	6–3¾x4¾	BL 314	U 4	No	Tim 54200 H	BF	H	5.8	37.1	7x2½x¼	C
102	.....CXH	2–3	1345	131	210	13400	4300	B6.50/20	DB6.50/20	Her JXC	6–3⅜x4¾	BL 234	U 4	No	Tim 54200	BF	H	5.8	37.0	10x2¾x¼	C
103	.....CF	2–3½	1895	160	224	14000	4900	B7.50/20	DB7.50/20	Lyc ASD	6–3¾x4½	BL 314	U 4	No	Tim 54200	BF	H	5.8	37.1	7x2½x¼	C
104	.....CXF	2–3½	2395	160	224	14000	5100	B7.50/20	DB7.50/20	Con 20R	6–4½x4¾	BL 554	U 4	No	Tim 54200	BF	H	5.8	41.6	7x2½x¼	C
105	.....D	2½–4	1995	160	224	17000	5100	B7.50/20	DB7.50/20	Lyc ASD	6–3¾x4½	BL 314	U 4	No	Tim 56200H	BF	H	6.1	39.0	7x2½x¼	C
106	.....DF	2½–4	2695	160	260	17000	5300	B7.50/20	DB7.50/20	Con 21R	6–4⅝x4¾	BL 554	U 4	No	Tim 56200	BF	H	6.1	43.5	7x2½x¼	C
107	.....EX	3–4	2295	160	224	16300	5200	B8.25/20	DB8.25/20	Con E601	6–3⅞x4¼	BL 324	U 4	No	Tim 56200	BF	H	6.1	43.5	7x2½x¼	C
108	.....E330	3–4½	2595	160	224	20000	5950	B8.25/20	DB8.25/20	Lyc TS	6–3⅞x5	BL 554	U 4	No	Tim 58200H	BF	H	5.5	35.6	12x2½x¼	C
109	.....ED	3–4½	3995	160	224	20000	6100	B8.25/20	DB8.25/20	Cum Die	4–4⅞x6	BL 554	U 4	No	Tim 58200	BF	H	5.5	35.6	12x2⅜x¼	C
110	.....EY190	3	3595	190	190	16000	6750	B7.50/20	DB7.50/20	Con 20R	6–4⅜x4¼	Co Rus4	U 4	No	Tim 58200H	BF	H	4.5	29.1	8¾x3¼x¼	L
111	.....GY	4	4345	190	210	18000	7700	B8.25/20	DB8.25/20	Con 21R	6–4⅝x4¾	Co Rus	U 4	No	Wis 69317H	2F	H	4.3	27.9	8¾x3¼x¼	L
112	.....G	4–6	3695	150	225	24000	7950	B9.00/20	DB9.00/20	Con 21R	6–4⅝x4¾	BL 554	U 4	No	Wis 1237H	2F	H	6.8	49.0	12x2¼x¼	P
113	.....GF	4–6	5500	150	225	24000	9050	B9.75/20	DB9.75/20	Her HXC	6–5¼x6	BL 744	U 4	No	Wis 1237H	2F	H	4.29	15.8	12x2½x¼	P
114	.....GW	5–7½	5175	157	240	28000	9500	B9.00/20	DB9.00/20	Con 21R	6–4⅝x4¾	BL 554	U 4	No	Wis 1627KW	2F	H	6.3	41.0	7½x3¾x¼	L
115	.....GWD	5–7½	6495	157	240	30000	10000	B10.50/20	D10.50/20	Cum H Die.	6–4⅞x6	BL 735	U 5	No	Wis 1737KW	2F	H	5.75	21.2	12x3x¼	L
116	.....HY	5	6595	210	236	22000	10100	B9.00/20	D10.00/20	Con 16H	6–4¾x5¼	Fu HU16	U 4	No	Wis12527KW	2F	H	4.0	25.2	8¾x3¼x¼	L
117	G.-P.....(7) 635	2–3	1445	154	160	15000	3650	B7.00/20	DB7.00/20	Lyc 8B	6–3⅜x4½	Fu MKU	U 4	No	Tim 53200H	SF	H	6.3	42.9	9x⅜x⅜	L
118	645	2½–3½	2425	154	175	18000	5775	B8.25/20	DB8.25/20	Wa 6-90-255	6–3⅜x4¾	Fu 5A380	U 5	No	Tim 58200H	SF	H	6.5	47.8	10x3½x⅜	TL
119	.....(7) 665	3½–5	4170	162	179	20000	7600	B9.00/20	DB9.00/20	Wa6-110-358	6–4x4¾	Fu 5A380	U 5	No	Wis 70000L	2F	R	8.0	56.0	12x3½x⅜	TL
120	.....(7) 675	5–7	5445	162	179	25000	9450	B9.75/20	DB9.75/20	Wa6-125-462	6–4⅜x5½	Fu 5A530	U 5	No	Wis 1337H	2F	R	8.6	61.0	14x3½x⅜	TL
121	Hendrickson....158	2½	2600	Op	Op	15000	6000	B8.25/20	DB8.25/20	Wau 6-90	6–3⅜x4¾	Fu 5A38	U 5	No	Tim 54200H	SF	H	Opt	Opt	8x3x⅜	C
122	198	3	3100	Op	Op	19000	6500	B9.00/20	DB9.00/20	Wau 6-110	6–4x4¾	Fu 5A38	U 5	No	Tim 58200H	SF	H	Opt	Opt	8x3x⅜	C
123	(Cont.).....248	4	3600	Op	Op	24000	8200	B9.75/20	DB9.75/20	Wau 6-110	6–4x4¾	Fu 5A38	U 5	No	Tim 75733H	w/2	R	Opt	Opt	8x3x⅜	P

Line Number	ENGINE DETAILS: Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	Piston Material	MAIN BEARINGS: Number and Diameter	MAIN BEARINGS: Length	Oiling System Type	Governor Make	FUEL SYST.: Carburetors Make	FUEL SYST.: Fuel Feed	ELECTRICAL: Ignition System Make	ELECTRICAL: Generator, Starter Make	Clutch Type and Make	Radiator Make	Universals Make	FRONT AXLE: Make and Model	Steering Gear Make	BRAKES: SERVICE: Make, Location, Type, Operation	BRAKES: SERVICE: Lining Area	BRAKES: SERVICE: Drum Material	BRAKES: SERVICE: Hand Location, Type	BODY MOUNTING DATA: Cab to Rear of Frame	BODY MOUNTING DATA: Cab to Rear Axle	BODY MOUNTING DATA: Width of Frame	SPRINGS: Front	SPRINGS: Rear	Auxiliary Type
1	228	5.0	148	27.3	63–2800	L	G	C	7–2¼	10¼	PC	No	Zen	M	AL	AL	P.BB	Mo	Spi	Cla F212A	Ros	L4IH	335	a	TX	126	72	34	42x2½	53x2½	½
2	282	5.35	176	33.7	73–2800	L	G	A	7–2¼	10¼	PC	No	Zen	M	AL	AL	P.BB	Mo	Spi	Cla F308	Ros	L4IH	350	a	TD	126	72	34	42x2½	53x2½	½
3	263	5.4	164	31.5	68–2800	L	G	A	7–2¼	10¼	PC	No	Zen	M	AL	AL	P.BB	Mo	Spi	Cla F308	Ros	L4IH	350	a	TD	126	72	34	42x2½	53x2½	½
4	263	5.4	164	31.5	68–2800	L	G	A	7–2¼	10¼	PC	No	Zen	M	AL	AL	P.BB	Mo	Spi	Cla F308	Ros	L4IH	350	a	TD	126	72	34	42x2½	53x2½	½
5	339	5.0	232	38.4	103–2800	L	G	A	7–2⅝	13¼	PC	Ha	Zen	M	AL	AL	P.BB	GO	Spi	Cla F308	Ros	L4IHV	350	a	TD	117	74⅜	34	45¼x2½	56x3	½
6	282	5.3	176	33.7	73–2800	L	G	A	7–2¼	10¼	PC	Ha	Zen	M	AL	AL	P.BB	Mo	Spi	Cla F308	Ros	L4IH	350	a	TD	126	72	34	42x2½	53x3	½
7	339	5.0	232	38.4	103–2800	L	G	A	7–2⅝	13¼	PC	Ha	Zen	M	AL	AL	D.Co	GO	Spi	Shu 5582B	Ros	L4IHV	408	a	TD	114	71½	34	45¼x2½	56x3	½
8	339	5.0	232	38.4	103–2800	L	G	A	7–2⅝	13¼	PC	Ha	Zen	M	AL	AL	P.BB	GO	Spi	Cla F308	Ros	L4IHV	408	a	TD	117	74⅜	34	45¼x2½	56x3	½
9	428	4.4	280	45.9	93–2200	L	G	C	7–3	14	PC	Ha	Zen	M	AL	AL	D.Co	GO	Spi	Shu 5582B	Ros	L4IHV	499	a	TD	120	79½	34	45¼x2½	56x3	½
10	384	5.0	258	43.3	107–2800	L	G	A	7–2¾	13¼	PC	Ha	Zen	M	AL	AL	P.BB	GO	Spi	Shu 5582B	Ros	L4IHV	499	a	TD	120	74½	34	45½x2½	56x3	½
11	501	4.4	330	48.6	110–2200	L	G	C	7–3	12½	PC	Ha	Zen	M	AL	AL	D.Co	GO	Spi	Shu 15682B	Ros	L4IHV	499	a	TD	138	89¼	34	46x3	56x3	½
12	529	4.4	350	51.3	114–2200	L	G	C	7–3	12½	PC	Ha	Zen	M	AL	AL	D.Co	GO	Spi	Shu 678–28	Ros	Ws 4IA	552	a	TD	138	89¼	34	46x3	56x3½	½
13	529	4.4	350	51.3	114–2200	L	G	C	7–3	12½	PC	Ha	Zen	M	AL	AL	D.Co	GO	Spi	Shu 678–28	Ros	L4IHV	...	a	TD	138	89¼	34	46x3	56x3	½
14	707	. .	455	60.0	148–2000	L	G	C	7–3½	17	PC	Ha	Zen	M	AL	AL	D.BL	GO	Spi	Shu 678–28	Ros	Ws 41A	...	a	TD	Opt	Opt	34	46x3	56x4	½
15	299	4.9	198	33.7	85–2800	L	G	C	4–2⅝	9⅛	PC	Mo	Til	M	AL	AL	D.BL	Pe	Blo	Tim 33000H	Ros	L4IHV	375	a	FD	120	77¼	34	42x2¼	50x3	½
16	190	5.5	130	23.4	70–3600	L	G	A	4–2¼	4⅛	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	107	c	TX	52½	25⅞	44⅛	36x1½	53½x1½	N
17	201	5.5	130	23.5	70–3600	L	G	A	4–2¼	4⅛	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	107	c	TX	60½	33⅛	44⅛	36x1½	53½x1½	N
18	337	5.0	132	23.5	62–3000	L	C	S	4–2¼	4.82	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	175	a	TX	94⅜	46½	34	36x1¾	48x2¼	N
19	201	5.0	132	23.5	62–3000	L	C	S	4–2¼	4.82	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	175	a	TX	94⅜	46½	34	36x1¾	48x2¼	N
20	217	5.0	148	25.3	77–3200	L	C	S	4–2½	5.34	CC	Ha	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	175	a	TX	94⅜	46½	34	36x1¾	48x2¼	½
21	217	5.0	148	25.3	77–3200	L	C	S	4–2¼	5.34	CC	Ha	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O4IH	229	a	TX	87½	51½	37⅜	39x2	48x2¼	½
22	309	4.7	200	31.5	96–3000	L	G	S	7–2⅝	11¾	CC	Ha	Det	M	DR	DR	P.BB	Lo	Own	Own	Jac	O4IH	350	a	CD	124⅛	69¾	33⅛	42x3	56x3½	½
23	241	5.3	167	39.2	78–3000	L	C	S	7–2¼ r	11	CC	KP	Zen	V	NE	NE	P.BB	Lo	Own	Own	Ha	O4IH	382	p	TX	82¼	54⅜	34	39x2½	45x3	N
24	309	4.7	200	21.0	96–3000	L	G	S	7–2⅝	11¾	CC	Ha	Det	M	DR	DR	P.BB	Fe	Own	Own	Jac	O41HV	416	a	CD	149⅛	89¾	34	42x3	56x3½	½
25	384	5.0	262	25.3	115–3000	L	G	S	9–2¾	13	CC	Ha	Str	M	DR	DR	P.BB	Fe	Own	Own	Jac	BWs4IA	650	a	CD	149⅛	89¾	34⅄	42x3	56x3½	½
26	330	4.5	213	33.7	61–2100	L	G	C	7–3r	9⅜	FP	No	Str	V	AL	AL	D.BL	Mo	Cle	Shu 5510	Ros	L4IHV	665	a	TD	Opt	80	34	39x2½	50x2¼	N
27	312	4.5	174	28.9	57–2100	L	G	C	3–3½ r	10⅛	PS	No	Zen	V	EI	AL	D.BL	Mo	Cle	Shu 5550	Ros	T21M	495	a	2	Opt	86	34	39x2½	52x3	N
28	428	4.5	280	45.9	102–2400	L	G	C	7–3r	9½	FP	No	Str	P	AL	AL	D.BL	Yo	Cle	Shu 5550	Ros	L4IHV	775	a	TD	Opt	80	34	39x2½	52x3	½
29	525	4.5	348	48.6	111–2200	L	G	C	7–3	11½	FP	Mo	Str	P	AL	AL	D.BL	Yo	Pet	Shu 637	Ros	L4IHV	855	a	TD	Opt	80	34	39½x3	52x3½	½
30	572	4.5	358	48.6	105–2200	L	G	C	4–3	10⅞	FP	Mo	Str	V	AL	AL	D.BL	Mo	Cle	Shu 655	Ros	T21A	495	a	....	Opt	89	38½	42x3	56x4	N
31	382	4.6	250	43.3	95–2500	L	G	N	7–2¾	12⅜	CC	Ha	Zen	M	DR	DR	P.BB	Yo	Spi	Cla F308	Ros	L4IHV	350	a	TD	140	82	34	40½x3	54x3	½
32	222	4.9	142	27.3	62–2800	L	G	A	4–2⅜	6½	FP	No	Zen	M	DR	DR	P.Lo	Pe	Spi	Tim 30010H	Ros	L4IH	257	G	TX	132	77½	34	32½x2	50x2½	½
33	255	5.3	182	27.3	90–3200	F	G	A	4–2⅝	7⅛	FP	Wa	Zen	M	My	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IH	306	G	TX	144	83¼	34	37x2¼	56x3	½
34	358	5.2	254	38.4	110–2800	F	G	A	7–2⅝	12½	FP	Wa	Zen	M	My	DR	P.BL	Pe	Spi	Tim 33020H	Ros	L4IHV	355	G	FD	167½	97½	34	41x2¼	56x3	½
35	358	5.2	254	38.4	110–2800	F	G	A	7–2⅝	12½	FP	Wa	Zen	M	My	DR	P.BL	Pe	Spi	Tim 35020H	Ros	L4IHV	398	G	FD	167½	97½	34	41x2¼	56x3	½
36	462	5.2	324	46.0	125–2600	F	G	A	7–3	13⅛	FP	Wa	Zen	M	My	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L4IHV	485	G	FD	172⅄	101½	33½	41x3	56x3½	½
37	462	5.2	324	46.0	125–2600	F	G	A	7–3	13⅛	FP	Wa	Zen	M	My	DR	P.BL	Pe	Spi	Tim 36020H	Ros	L4IHV	717	G	FD	172⅄	101½	33½	41x3	56x3½	½
38	200	4.7	126	24.9	50–2700	L	C	A	3–2⅛	5⅛	CC	KP	Car	M	DR	DR	P.BB	Lo	Spi	Cla F212	Ge	L4IH	200	a	TX	....	....	34	38½x2¼	50x2½	N
39	228	4.7	149	27.3	62–2600	L	G	C	7–2½	10¼	PC	Mo	Car	M	DR	DR	P.BB	Lo	Spi	Cla F212	Ge	L4IH	222	a	TX	101	51½	34	38x2½	50x2½	N
40	263	5.4	164	31.5	67–2600	L	G	A	7–2½	10¼	PC	Mo	Car	M	DR	DR	P.BB	Lo	Spi	Tim 31020H	Ge	L4IH	269	a	TX	101	51½	34	38x2½	50x2½	½
41	282	5.4	176	33.7	72–2600	L	G	A	7–2¼	10¼	PC	Mo	Car	M	DR	DR	P.BB	Lo	Spi	Cla F308	Ge	L4IH	315	a	TD	101	51½	34	38x2½	50x3	½
42	251	4.1	162	25.6	50–2000	L	G	C	3–2¾	7½	CC	Wa	Zen	V	DR	DR	P.BB	Lo	PS	Own 7720	Ros	L4IH	337	a	TI	119	71	34	38x2½	52x3	½
43	251	4.1	162	25.6	50–2000	L	G	C	3–2¾	7½	CC	Wa	Zen	V	DR	DR	P.BB	Lo	PS	Own 7720	Ros	L4IHV	379	a	TI	119	71	34	38x2½	51¾x3	½
44	315	5.0	200	33.8	73–2500	L	G	A	7–2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BB	Lo	Spi	Cla F320	Ge	L4IHV	315	a	FD	115	82	34	42x2¼	52x3	½
45	381	4.8	240	40.8	85–2400	L	G	A	7–2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BB	Lo	Spi	Cla F320	Ros	L4IHV	379	a	FD	115	82	34	42x2¼	52x3	½
46	381	4.8	240	40.8	85–2400	L	G	A	7–2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BB	Lo	Spi	Cla F320	Ros	L4IHV	379	a	FD	115	82	34	42x2¼	52x3	½
47	339	4.2	212	38.4	80–2200	H	C	C	7–2¾	13⅛	CC	KP	Zen	M	DR	DR	P.BB	Lo	PS	Own 7738	Ros	L4IHV	379	a	TI	117	79	34	42x2¼	54x3	½
48	339	4.2	212	38.4	80–2200	H	C	C	7–2¾	13⅛	CC	KP	Zen	M	DR	DR	P.BB	Lo	PS	Own 7738	Ros	L4IHV	379	a	TI	117	79	34	42x2¼	54x3	½
49	318	4.6	202	36.0	80–2500	L	G	C	7–2⅝	12¼	CC	KP	Zen	M	DR	DR	P.BB	Lo	PS	Cla F318	Ros	L4IHV	379	a	TI	113	71	34	40x2½	52x3	½
50	318	4.6	202	36.0	80–2500	L	G	C	7–2⅝	12¼	CC	KP	Zen	M	DR	DR	P.BB	Lo	PS	Cla F318	Ros	L4IHV	379	a	TI	113	71	34	40x2½	52x3	½
51	381	4.2	237	40.8	85–2200	H	C	C	7–2¾	13⅛	CC	KP	Zen	M	DR	DR	P.BB	Lo	Spi	Own 7720	Ros	L4IHV	465	a	TD	117	79	34	42x2¼	54x3	½
52	428	4.2	268	45.9	100–2200	H	C	C	7–2¾	13⅛	CC	KP	Zen	M	DR	DR	P.BL	Lo	Spi	Tim 36020H	Ha	L4IHV	513	a	TD	162	102	34	42x3	56x3½	½
53	428	4.2	268	45.9	100–2200	H	C	C	7–2¾	13⅛	CC	KP	Zen	V	DR	DR	P.BL	Lo	Spi	Tim 36020W	Ha	W4IA	623	a	TD	162	102	34	42x3	56x3½	½
54	471	3.7	288	40.0	61–1350	L	G	C	3–2¾	11⅞	FP	Pe	Tri	V	AB	DR	P.BL	Lo	PS	Own 5008	Ge	T21MV	568	a	RI	151	87	38	44x3	56x3½	½
55	428	4.2	268	45.9	100–2200	H	C	C	7–2¾	13⅛	CC	KP	Zen	M	DR	DR	P.BL	Lo	PS	Own 5008	Ros	T21MV	458	a	RI	151	87	38	44x3	56x3½	½
56	200	4.6	128	24.0	50–2800	L	G	A	3–2	7	PS	No	Zen	P	Ow	Ow	P.Ow	Ow	Spi	Own	Own	O4IM	186	a	4I	....	31¼	44	31⅛x1¼	44¼x2¼	N
57	200	4.6	128	24.0	50–2800	L	G	A	3–2	7	PS	No	Zen	P	Ow	Ow	P.Lo	Ow	Spi	Own	Own	O4IM	344	a	2I	94¼	51¼	38	33x2¼	50x2¼	O
58	200	4.6	128	24.0	50–2800	L	G	A	3–2	7	PS	No	Zen	P	Ow	Ow	P.Lo	Ow	Spi	Own	Own	O4IM	344	a	2I	120⅄	76¼	38	33x2¼	50x2¼	O
59	220	6.3	148	30.0	81–3800	L	G	A	3–2	5⅛	PS	No	Det	P	Ow	Ow	P.Lo	Ow	Spi	Own	Own	O4IM	344	a	2I	109⅜	51⅄	38	33x2¼	50x2¼	O
60	220	6.3	148	30.0	81–3800	L	G	A	3–2	5⅛	PS	No	Det	P	Ow	Ow	P.Lo	Ow	Spi	Own	Own	O4IM	344	a	2I	145⅜	76¼	38	33x2¼	50x2¼	O
61	220	6.3	148	30.0	81–3800	L	G	A	3–2	5⅛	PS	No	Det	P	Ow	Ow	P.Ow	Ow	Spi	Own	Own	O4IM	186	a	4I	.....	31⅞	43	44½x2¼	44½x2¼	N
62	251	4.5	160	25.6	50–2000	H	G	C	3–2¼ r	8	PC	No	Zen	V	AL	AL	D.DG	Pe	Blo	Own H	Ros	OT/4XM	238	G	2I	112	81	36	42¾x2½	52¾x2½	½
63	315	4.5	200	33.7	72–2500	L	G	C	7–2⅝	12⅜	PC	Wa	Zen	V	NE	NE	D.BL	Pe	Blo	Own H	Ros	OT/4XM	252	G	2I	115½	81½	36	42¾x2½	52¾x2½	½
64	381	4.5	240	40.8	85–2400	L	G	C	7–2⅝	12⅜	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own U	Ros	OT/4XM	238	G	2I	126	86	36	42¾x2½	52¾x2½	½
65	428	4.6	265	40.8	91–2300	L	G	C	7–3	13⅞	PC	Wa	Zen	M	NE	NE	O.ME	Mc	Blo	Own B	Ros	OT/4XM	238	G	2I	130	93	36	42¾x2½	52¾x2½	N
66	411	4.6	265	40.8	91–2300	L	G	C	7–3	13⅞	PC	Wa	Zen	M	NE	NE	O.HS	Pe	Blo	Own U	Ros	OT/4XM	238	G	2I	132	93	36	42¾x2½	52¾x2½	N
67	411	4.6	265	40.8	91–2300	L	G	C	7–3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own U	Ha	OT/4XM	238	G	4X	132	93	36	42¾x2½	52¾x2½	½
68	462	4.5	300	45.9	102–2400	L	G	C	7–3	13⅞	PC	Wa	Zen	V	NE	NE	O.HS	Pe	Blo	Own M	Ros	OT/4XM	238	G	2I	132	93	36	42¾x2½	52¾x2½	½
69	462	4.5	300	45.9	102–2400	L	G	C	7–3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own M	Ha	OT/4XM	238	G	2I	132	93	36	42¾x2½	52¾x2½	½
70	517	4.6	330	51.3	110–2300	L	G	C	7–3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Wis 131F	Ros	B4IMV	324	G	T4	153½	110½	34	48x3½	52x4	½
71	517	4.6	330	51.3	110–2300	L	G	C	7–3	13¾	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own M	Ros	O4TB	722	G	4X	132	93	36	42¾x2½	54¼x2½	½
72	411	4.6	265	40.8	91–2300	L	G	C	7–3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own U	Ros	O4IM	722	G	4D	Opt	42	42¾x2½	52x4	N
73	677	4.4	460	60.	125–2000	L	G	C	4–3½	11⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Wis 131F	Ros	B4IMV	324	G	T4	153½	110½	34	48x3½	52x4	N
74	462	4.4	330	45.9	125–2500	F	G	C	7–3	13⅞	PC	Ha	Zen	P	NE	NE	O.ME	Pe	Blo	Own U	Ros	O4A	610	G	T4	107	80	34	42¾x2½	52¾x2½	N
75	462	4.4	330	45.9	125–2500	F	G	C	7–3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Wis 1237	Ros	4A	610	G	T4	97¼	67¼	34	48x3½	52x3½	N
76	221	4.6	155	24.3	69–2800	H	G	B	4–2⅝	7⅛	PC	Opt	Zen	M	DR	DR	P.Ow	Hr	Own	Own	Jac	O4IM	186	p	2I	85½	50¼	37⅄	36x1¾	45x2½	½
77	221	4.6	155	24.3	69–2800	H	G	B	4–2⅝	7⅛	PC	Opt	Zen	M	DR	DR	P.Ow	Hr	Spi	Own	Jac	O4IM	186	pa	2I	85½	50¼	37⅄	36x1¾	45x2½	½
78	221	4.6	155	24.3	69–2800	H	G	B	4–2⅝	7⅛	PC	Opt	Zen	M	DR	DR	P.Ow	Lo	Spi	Own	Jac	B4IM	328	a	TX	107	60	34	38x2	50x3	½
79	257	4.5	185	28.3	76–2500	H	G	B	4–2¾	7⅛	PC	Ha	Zen	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	328	a	TX	107	60	34	38x2	50x3	½
80	257	4.5	185	28.3	76–2500	H	G	B	4–2¾	7⅛	PC	Ha	Zen	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	337	a	TX	107	60	34	38x2½	50x3	½
81	331	4.4	230	33.7	94–2500	H	G	A	4–2½	8⅛	PC	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IM	337	a	TX	107	60	34	38x2½	50x3	½
82	331	4.4	230	33.7	94–2500	H	G	A	4–2½	8⅛	PC	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	379	a	TX	125	70	34⅄	40x3	50x3	½
83	331	4.4	230	33.7	94–2500	H	G	A	4–2½	8⅛	PC	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	449	a	TX	125	69¼	34⅄	40x3	54x3	½
84	331	4.4	230	33.7	94–2500	H	G	A	4–2½	8⅛	PC	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	449	a	TX	125	69¼	34⅄	40x3	54x3	½
85	400	4.6	296	40.9	110–2300	H	G	A	4–2.7	8⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	449	a	TX	125	69¼	34⅄	40x3	54x3	½
86	400	4.6	296	40.9	110–2300	H	G	A	4–2.7	8⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	557	a	TX	125	70	34⅄	40x3	54x3	½
87	400	4.6	296	40.9	110–2300	H	G	A	4–2/7	8⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	594	a	TX	137	82	34⅄	50x3½	54x3	½
88	400	4.6	296	40.9	110–2300	H	G	A	4–2/7	8⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	594	a	TX	210	117	34⅄	50x3½	54x3	½
89	525	4.5	380	48.6	128–2100	H	C	A	7–2¾	14⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	594	a	TX	137	82	34⅄	50x3½	54x3	½
90	525	4.5	380	48.6	128–2100	H	C	A	7–2¾	14⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IMV	594	a	TX	137	82	34⅄	50x3½	54x3	½
91	616	4.5	450	57.0	149–2100	H	C	A	7–2¾	14⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B4IA	638	a	TX	137	82	34⅄	50x3½	.....	N
92	200	4.7	121	24.0	50–2800	L	C	A	3–2⅛	5⅛	PC	No	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 30000H	Ros	L4IH	249	p	FD	81½	51¾	34	36x2¼	45x2½	½
93	214	5.3	142	27.4	71–3200	L	C	A	4–2⅜	6¼	FP	No	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 30000H	Ros	L4IH	249	p	FD	81½	51¾	34	36x2¼	45x2½	½
94	200	4.7	121	24.0	50–2800	L	C	A	3–2⅛	5⅛	PC	No	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 30000H	Ros	L4IH	249	p	FD	81½	51¾	34	36x2¼	45x2½	½
95	214	5.3	142	27.3	71–3200	L	C	A	4–2⅜	6¼	PC	No	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 30000H	Ros	L4IH	249	p	FD	81½	51¾	34	36x2¼	45x2½	½
96	299	4.9	198	33.7	85–2800	L	G	C	4–2⅝	9⅛	PC	No	Til	M	AL	AL	P.BL	Pe	Blo	Tim 30000	Ros	L4IH	249	p	FD	81¾	51¾	34	36x2¼	45x2½	½
97	224	4.7	146	25.3	61–2900	L	G	C	4–2⅝	8⅛	PC	Mo	Zen	V	AL	AL	D.Jo	Pe	Blo	Tim 31000H	Ros	L4IH	260	p	FD	94	60¾	34	40x2¼	50x2½	½
98	299	4.9	198	33.7	85–2800	L	G	C	4–2⅝	9⅛	PC	No	Til	M	AL	AL	P.BL	Pe	Blo	Tim 31000	Ros	L4IH	260	p	FD	94	60¾	34	40x2¼	50x2½	½
99	227	4.7	136	27.2	55–2400	L	G	C	3–2¼	5⅞	PC	Mo	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 31000H	Ros	L4IH	269	p	FD	81	51¾	34	36x2¼	45x2½	½
100	248	5.0	150	27.3	70–3000	L	C	C	7–2⅝	10	FP	Mo	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 31000H	Ros	L4IH	260	p	FD	81	51¾	34	36x2¼	45x2½	½
101	278	4.7	182	31.5	85–3300	L	G	A	4–2⅝	9¼	PC	Mo	Til	M	AL	AL	P.BL	Pe	Blo	Tim 31000H	Ros	L4IH	260	p	FD	120	77¼	34	42x2¼	56x3	½
102	282	5.4	176	33.7	73–2800	L	G	C	7–2½	10¼	PC	Mo	Zen	M	AL	AL	P.BL	Pe	Blo	Tim 31000H	Ros	L4IH	260	P	FD	81	51¾	34	36x2¼	45x2½	½
103	299	4.9	198	33.7	85–2800	L	G	C	4–2⅝	9⅛	P	No	Til	M	AL	AL	P.BL	Pe	Blo	Tim 31000	Ros	L4IH	260	p	FD	120	77¼	34	42x2¼	56x3	½
104	380	4.7	238	40.8	88–400	H	C	C	7–2⅝	13⅛	PC	No	Zen	M	AL	AL	P.BL	Pe	Blo	Tim 31000	Ros	L4IH	260	p	FD	120	77¼	34	42x2¼	56x3	½
105	299	4.9	198	33.7	85–2800	L	G	C	4–2⅝	9⅛	PC	Mo	Til	M	AL	AL	P.BL	Pe	Blo	Tim 33000H	Ros	L4IHV	330	a	FD	120	77¼	34	42x2¼	56x3	½
106	428	4.6	265	45.9	100–2200	H	C	C	7–2⅝	13⅛	PC	No	Zen	M	AL	AL	P.BL	Pe	Blo	Tim 33000	Ros	L4IHV	330	a	FD	120	77¼	34	42x2¼	56x3	½
107	318	4.5	203	36.	80–2700	L	G	C	7–2⅝	12⅜	PC	Mo	Zen	M	AL	AL	P.BL	Pe	Blo	Tim 33000H	Ros	L4IHV	330	a	FD	120	77¼	34	42x2¼	56x3	½
108	353	4.8	245	36.2	98–2700	L	G	C	4–2¾	10⅛	PC	Mo	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 33000H	Ros	L4IHV	375	a	FD	127	74½	34	42x2¼	56x3	½
109	448	17.	280	38.0	83–1800	H	C	G	N 5–3¼	12	P	En	No	M	CI	LN	D.BL	Pe	Blo	Tim 33000	Ros	L4IHV	375	a	FD	127	74½	34	42x2¼	56x3	½
110	380	4.7	238	40.8	88–2400	H	C	C	7–2⅝	13⅛	PC	Mo	Zen	M	AL	AL	D.Jo	Pe	Blo	Tim 33000	Ros	L4IHV	375	a	FD	156	90	41½	44x2½

Line Number	MAKE AND MODEL	GENERAL (See Keynote)						TIRE SIZE		MAJOR UNITS									FRAME	
										ENGINE		TRANSMISSION			REAR AXLE			GEAR RATIOS		
		Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cylinders Bore and Stroke	Make and Model	Location and Forward Speeds	Aux. Location and Speeds	Make and Model	Gear and Type	Drive and Torque	In High	In Low	Side Rail Dimensions	Type
1	Hendrickson	32S	5	4200	Op	Op	32000	10600	B9.75/20	DB9.75/20	Wau 125	6-4 3/8 x5 1/2	Fu 5A53	U 5	No	Tim 76733H	w/2	R	Opt	Opt	8x3x 1/4	P
2	Hug	23	2	1785	146	191	12310	5510	B7.00/20	DB7.00/20	Bud H298	6-3 3/4 x4 1/2	Fu MLU	U 4	No	Cla B611	SF	H	5.66	36.0	8x3x 1/4	T
3		42	3	2175	146	201	15600	6400	B8.25/20	DB8.25/20	Bud H298	6-3 3/4 x4 1/2	Fu MLU	U 4	No	Cla B805	SF	H	6.37	40.5	8x3x 1/4	T
4		41S	3	5070	158	158	18165	8500	B9.75/20	B12.75/20	Bud K428	6-4 1/8 x4 3/4	Fu MRUAY	U 4	A 3	Wis 1237H	2F	H	8.95	119	8x3x 1/4	T
5		42K	3	2393	146	201	16500	7300	B9.00/20	DB9.00/20	Bud K369	6-4 1/8 x4 3/4	BL 51-5	U5	No	Cla B805	SF	H	7.12	42.0	8x3x 1/4	T
6		70	3	3435	122	122	19500	7535	B9.00/20	DB9.00/20	Bud K369	6-4 1/8 x4 3/4	Fu 5A380	U 5	No	Wis 70000Q	2F	H	9.14	64.0	6x3x 1/4	I
7		87K	3 1/2	4300	128	128	22400	7600	B9.75/20	DB9.75/20	Bud K428	6-4 3/8 x4 3/4	Fu MHOG	A 8	No	Wis 1237Q	2F	H	8.95	79.0	7x3 1/4 x 1/4	I
8		43	3 1/2	3380	146	201	22500	7300	B9.75/20	DB9.75/20	Bud K428	6-4 3/8 x4 3/4	Fu VUOG	U 5	No	Wis 1237H	2F	H	8.95	62.0	8x3x 1/4	I
9		87Q	5	4875	144	144	27000	8059	B10.50/20	DB10.50/20	Bud K428	6-4 3/8 x4 3/4	Fu MHOG	A 8	No	Wis 1737K	2F	H	9.16	99.0	8x4x 1/4	I
10		43L	5	3850	146	201	28105	8905	B9.75/20	DB9.75/20	Bud L525	6-4 1/2 x5 1/2	Fu VUOG	U 5	No	Wis 1737KH	2F	H	9.14	64.0	8x3x 1/4	I
11		97L	5	5815	144	144	35620	10810	B10.50/20	DB10.50/20	Bud L525	6-4 1/2 x5 1/2	Fu VU	U 5	A 3	Wis 1902T	2F	H	11.1	178	8x3x 1/4	I
12	Indiana	85	1 1/2	885	141	186	10000	3950	B6.50/20	DB6.50/20	Her JXA	6-3 3/4 x4 1/4	BL 124	U 4	No	Tim 53200H	SF	H	5.66	35.1	7 1/4 x2 1/4 x 1/4	T
13	(4Wh. Dr.)	12X4	1 1/2	2650	141	...	10000	4350	B6.50/20	DB6.50/20	Her JXC	6-3 3/4 x4 1/4	BL	U 4	A 2	Tim 53200H	SF	H	5.14	54.0	7 1/4 x2 1/2 x 1/4	T
14		95	2	1095	141	186	12000	4400	P32x6	DP32x6	Her JXC	6-3 3/4 x4 1/4	BL 224	U 4	No	Tim 54300H	SF	H	5.85	36.2	7 1/4 x2 1/2 x 1/4	T
15		95DR	2 1/2	1275	141	186	15000	4650	B7.50/20	DB7.50/20	Her JXC	6-3 3/4 x4 1/4	BL 224	U 4	Op	Wis 4916L	2F	H	6.66	41.2	7 1/4 x2 1/2 x 1/4	T
16	(4Wh. Dr.)	14X4	2 1/2	3950	141	...	14000	5900	B7.50/20	DB7.50/20	Her WXB	6-3 3/4 x4 1/2	BL	U 4	U 2	Wis	SF	H	5.40	50.0	7 1/4 x2 1/2 x 1/2	C
17	(4Wh. Dr.)	16X4	3	4850	156	...	16000	7500	B8.25/20	DB8.25/20	Her WXC2	6-4 1/2 x4 1/2	BL	U 4	U 2	Wis	2F	H	6.06	89.0	8x3x 1/4	C
18		17A	3	2300	156	212	17000	6300	B8.25/20	DB8.25/20	Her WXC	6-4x4 1/2	BL 3341	U 4	A 3	Tim 58205H	SF	H	6.83	43.0	8x3x 1/4	T
19		17ADR	3	2475	156	212	18000	6350	B8.25/20	DB8.25/20	Her WXC	6-4x4 1/2	BL 3341	U 4	Op	Wis 70000H	2F	R	7.06	44.5	8x3x 1/4	T
20		17	3	2450	170	224	18000	6600	B8.25/20	DB8.25/20	Her YXC	6-4 3/8 x4 3/4	BL 3341	U 4	Op	Tim 58205H	SF	R	6.14	38.7	8 1/2 x3x 1/4	T
21		17DR	3	2675	170	224	19000	6700	B8.25/20	DB8.25/20	Her YXC	6-4 3/8 x4 3/4	BL 334	U 4	Op	Wis 70000	2F	R	6.28	38.6	8 1/4 x3x 1/4	T
22		19DR	3 1/2	3400	170	224	22000	7600	B9.00/20	DB9.00/20	Her YXC	6-4 3/8 x4 3/4	BL 524	U 4	Op	Wis 1237H	2F	R	7.2	52.3	8 1/4 x3x 1/4	T
23	(4Wh. Dr.)	18X4	3 1/2	5850	160	...	21000	9000	B9.00/20	DB9.00/20	Her YXC	6-4 3/8 x4 3/4	BL	U 4	A 2	Wis	2F	H	7.83	110.	8 1/4 x3x 1/4	T
24	(4Wh. Dr.)	18x4A	3 1/2	5400	160	224	21000	8700	B9. 00/20	D9. 00/20	Her YXC3	6-4 3/4 x4 3/4	BL	U4	A 2	Tim	SF	H	6.14	38. 6	8 1/4 x3x 1/4	T
25		43DR	4	4300	170	224	25000	8000	B9.75/20	DB9.75/20	Her RXB	6-4 1/2 x5 1/4	BL 524	U 4	Op	Wis 1627KH	2F	R	6.96	50.7	8 1/4 x3x 1/4	T
26	(4Wh. Dr.)	20X4	4 1/2	7200	188	...	24000	10600	B9.75/20	DB9.75/20	Her HXB	6-5x6	BL	U 4	A 2	Wis	2F	H	8.00	128.	9x3x 1/4	C
27		45DR	5	4800	170	224	25000	8700	B9.75/20	DB9.75/20	Her RXC	6-4 3/8 x5 1/4	BL 534	U 4	Op	Wis 1737H	2F	R	7.14	45.4	8 1/4 x3x 3/8	C
28	(4Wh. Dr.)	22X4	5	10000	200	...	31000	14000	B10.50/20	DB10.50/20	Her HXC	6-5 1/4 x6	BL	U 4	A 2	Wis	2F	H	9.11	86.0	8 1/4 x3 1/4 x 5/16	C
29	International (8)	D1	1/2	360	113	113	4200	2180	B5.25/18	B5.25/18	Own D	6-3 1/8 x4 1/4	Own D	U 3	No	Own D-55	SF	H	4.18	12.7	5 1/4 x2 1/4 x 1/8	D
30		M2	1	850	118	118	7000	3180	B6.50/20	B6.50/20	Wau XAH	4-3 5/8 x4 1/2	Own H-4-A	U 4	No	Own 713	SF	H	6.16	39.5	11 1/2 x3 1/4 x 1/4	D
31		A2	1 1/2	615	136	160	8000	2945	B6.00/20	B6.00/20	Wau XAH	4-3 5/8 x4 1/2	Own H-4-A	U 4	No	Own 708	SF	H	6.16	39.5	5 5/8 x2 3/4 x 1/4	T
32		B2	1 1/2	615	136	136	8000	2945	B6.00/20	B6.00/20	Wau XAH	4-3 5/8 x4 1/2	MM "O"	U 3	No	Own 704	SF	H	6.16	47.3	5 5/8 x2 3/4 x 1/4	T
33		A3	1 1/2	695	136	160	10000	3573	P30x5	P32x6	Lyc SAH	6-3 1/4 x4 1/2	Own H-4-A	U 4	No	Own 710	SF	H	5.28	33.8	7x2 3/4 x 1/4	T
34		A3 1/2	1 1/2	970	136	160	10100	3600	B6.50/20	DB6.50/20	Lyc SAH	6-3 1/4 x4 1/2	WG T7	U 4	No	Own 710	SF	H	6.28	33.8	7x2 3/4 x 1/4	T
35		AL3	1 1/2	895	138	164	10000	4032	B6.00/20	DB6.00/20	Lyc 4SLH	6-3 1/4 x4 1/2	WG T7	U 4	No	Own 800	S1/2	H	6.50	42.9	6 1/2 x2 1/4 x 1/4	T
36		B-3	1 1/2	695	136	160	10000	3385	P30x5	P32x6	Own FAB2	6-3 1/8 x4	Own H-4-A	U 4	No	Own 720	SF	H	5.29	33.8	7x2 3/4 x 1/4	T
37		B4	2	1045	145	185	12750	4055	B6.50/20	DB6.50/20	Own FAB-3	6-3 1/8 x4	Own H-4-A	U 4	No	Own 750	SF	H	6.5	41.6	8x3 1/4 x 1/4	T
38		A4	2	1625	145	185	15750	5221	P32x6	DP32x6	Own FBB	6-3 5/8 x4 1/2	OwnH-5	U 5	No	Own 902	SF	H	6.50	47.8	7x3 3/4 x 1/4	T
39		A5	3	2100	156	210	18750	5895	P34x7	DP34x7	Own FBB	6-3 5/8 x4 1/2	OwnH-5	U 5	No	Own 1012	SF	H	7.16	64.7	8x3 3/4 x 1/4	T
40		A6	3	2450	156	210	20850	6120	P34x7	DP34x7	Own FBB	6-3 5/8 x4 1/2	OwnH-5	U 5	No	Own 1150	2F	H	8.5	76.8	8 1/2 x3 1/4 x 1/8	T
41		W2	3 1/2	3900	148	200	24000	8450	S36x5	S36x10	HaS 151	4-4 1/4 x5 1/2	Own H-6	U 5	No	Own 1200	2F	H	6.85	83.9	7x3x 1/4	T
42		W3	5	4850	160	235	28000	10125	S36x6°	S40x12°	HaS 152	4-4 3/4 x5 1/2	OwnH -7	U 5	No	Own 1300	2F	H	7.85	70.5	8x3x 1/4	T
43		A7	5-7 1/2	6200	160	225	37000	11590	B9.75/20	DB9.75/20	Own FDB	6-4 1/2 x5 1/2	Own H-7	U 5	No	Own 1301	2F	H	6.37	57.2	12 1/2 x3 1/4 x 1/2	T
44		A8	7 1/2	6300	160	225	37000	11590	B9.75/20	DB9.75/20	Own FEB	6-5x5 1/4	Own H-7	U 5	No	Own 1301	2F	H	6.37	57.2	12 1/2 x3 1/4 x 1/2	T
45	Kenworth	BE	2	1440	146	200	13400	4400	P32x6	DP32x6	Her JXC	6-3 3/4 x4 1/4	BL 234	U 4	Op	Tim 54300H	SF	H	5.83	37.4	8x3x 1/4	T
46		101B	2-2 1/2	2050	144	186	13400	4700	B7.50/20	DB7.50/20	Bud H298	6-3 3/4 x4 1/2	BL 234	U 4	...	Tim 54300H	SF	H	5.83	37.4	8x3x 1/4	T
47		89	2 1/2	1670	146	200	15000	4600	B7.50/20	DB7.50/20	Her JXC	6-3 3/4 x4 1/4	BL 234	U 4	Op	Tim 56200H	SF	H	6.16	39.5	8x3x 1/4	T
48		127	2 1/2-3	2600	154	202	16300	5490	B8.25/20	DB8.25/20	Her WXC	6-4x4 1/2	BL 334	U 4	...	Tim 56200H	SF	H	6.16	40.7	8x3x 1/4	T
49		90	3	1820	146	200	18200	5500	B7.50/20	DB7.50/20	Her JXC	6-3 3/4 x4 1/4	BL 234	U 4	Op	Tim 58205H	SF	H	6.83	43.8	8x3x 1/4	T
50		146B	3-4	3300	158	206	19500	5960	B9.00/20	DB9.00/20	Bud K393	6-4 1/8 x4 3/4	BL 334	U 4	Op	Tim 58205H	SF	H	6.83	43.4	8x3x 1/4	T
51		166B	3 1/2-4	3850	156	204	20700	6890	B9.00/20	DB9.00/20	Bud K393	6-4 1/8 x4 3/4	BL 334	U 4	Op	Tim 58205H	SF	H	6.83	43.4	7x9x3x 1/4	T
52		166A	3 1/2-4	4330	156	204	20700	6890	B9.00/20	DB9.00/20	HaS 147	6-4x5	BL 334	U 4	Op	Tim 58205H	SF	H	6.83	43.4	7x9x3x 1/4	T
53		180	4-5	4675	155	221	25600	7710	B9.75/20	DB9.75/20	Her YXC2	6-4 1/2 x4 3/4	BL 1554	U 4	A 3	Tim 75720H	2F	H	7.33	105.	7x9x3x 1/4	T
54		241	5-7	5450	169	221	27800	9000	B9.75/20	DB9.75/20	Her RXB	6-4 1/2 x5 1/4	BL 714	U 4	A 3	Tim 76720W	2F	H	7.33	85.5	7x9x3x 1/4	T
55		241A	5-7	6500	169	228	27800	9500	B9.75/20	DB9.75/20	HaS 160	6-4 1/4 x5 1/2	BL 714	U 4	A 3	Tim 76720W	2F	H	7.33	85.5	8x3x 1/4	C
56		241B	5-7	6150	174	228	27800	9500	B9.75/20	DB9.75/20	Bud GL-6	6-4 1/4 x6	BL 714	U 4	A 3	Tim 76720W	2F	H	7.33	85.5	8x3x 1/4	C
57		241C	5-7	7200	174	228	27800	10000	B9.75/20	DB9.75/20	HaS 175	6-5x6	BL 714	U 4	A 3	Tim 76720W	2F	H	7.38	86.5	8x3x 1/4	C
58	Kleiber	80	1 1/2-2 1/2	1200	140	160	11200	3950	B6.50/20	DB6.50/20	Con 18E	6-3 1/4 x4	BL 224	U 4	No	Tim 53200H	BF	H	5.81	34.0	5 1/4 x3 1/4 x 1/4	C
59		100	2-3 1/2	1570	170	180	13400	4400	B7.00/20	DB7.00/20	Con 20C	6-3 1/4 x4 5/8	BL 324	U 4	No	Tim 54200H	BF	H	6.6	38. 7	7 1/2 x3 1/4	T
60		120	2 1/2-4 1/2	1950	170	180	15000	5150	B7.50/20	DB7.50/20	Con E600	6-3 1/4 x4	BL 324	U 4	No	Tim 56200H	BF	H	6.17	33.4	7 1/2 x3 1/4	T
61		140	3-5 1/2	2490	180	190	18000	6500	B8.25/20	DB8.25/20	Con E601	6-3 1/4 x4 1/2	BL 324	U 4	No	Tim 58200H	BF	R	7. 1	38. 7	7 1/2 x3 1/4	T
62		210	4-6	3800	190	192	23400	7600	B9.75/20	DB9.75/20	Con 21R	6-4 3/8 x4 3/4	BL 55	U 4	No	EatDR2412H	2F	R	7.25	42.0	7 1/2 x3 1/4	C
63		KD6	7	6000	206	210	26000	9500	B9.75/20	DB9.75/20	Cum6HDIe	6-4 7/8 x6	BL 714	A 4	A 3	Eat 65041W	2F	R	8.5	91.0	8x3 1/4 x 1/4	C
64	La Fr. Republic	C-2	2	1100	150	162	11000	3800	B6.00/20	DB6.00/20	Lyc SA	6-3 1/4 x4 1/2	WG T9	U 4	No	Tim 53200H	SF	H	5.67	35.9	5 7/8 x2x 1/4	C
65		D-2	2-2 1/2	1485	162	175	14000	4600	B6.50/20	DB6.50/20	Lyc SB	6-3 1/4 x4 1/2	WG T9	U 4	No	Tim 54200H	SF	R	5.83	37.9	7x3x 1/4	C
66		E-2	2 1/2-3	2005	162	190	17000	5375	P32x6	DP32x6	Lyc ASD	6-3 3/4 x4 1/2	Fu Mlu-Bb	U 4	No	Tim 56200H	SF	R	7.4	47.0	7x3x 1/4	C
67		F-3	3 1/2-4	2420	174	198	21000	6240	P34x7	DP34x7	Wau MK	6-4 1/2 x4 3/8	Fu MGU14	U 4	No	Tim 58200H	SF	R	7.8	50.6	8x3x 1/4	C
68		H-5	4-5	3285	179	206	26000	7840	B9.75/20	DP9.75/20	Wau MK	6-4 1/4 x4 3/4	Fu MRU	U 4	No	Tim 75733H	2F	R	7.97	53.0	8x3x 1/4	C
69		M-3	5-6	4640	174	198	32000	9490	B10.50/20	DB10.50/20	Wau 6SRL	6-4 1/2 x5 1/4	Fu VUOG	U 5	No	Tim 76733H	2F	R	8.85	62.5	9 1/2 x3 1/2 x 1/4	C
70		35-4	7-8	6570	174	198	35000	9700	B10.50/24	DB10.50/24	Wau 6-125	6-4 3/4 x5 1/2	Fu MHU	U 4	No	Tim 78720W	2F	R	8.90	58.2	9 1/2 x3 1/4 x 1/4	C
71	Le Moon	150	1 1/2	1150	140	152	8000	3300	B6.50/20	B6.50/20	Con 20C	6-3 1/4 x4 3/8	BL 214	U 4	No	Tim 53200H	BF	H	5.14	31.8	6x3x 1/4	T
72		200	1 1/2-2	1350	160	178	11200	3600	B7.00/20	DB7.00/20	Con 20C	6-3 1/4 x4 3/8	BL 214	U 4	No	Tim 53200H	BF	H	5.14	31.8	6x3x 1/4	T
73		300	2-3	1575	163	190	12600	4200	B7.50/20	DB7.50/20	Con 20C	6-3 1/4 x4 3/8	BL 214	U 4	No	Tim 54200H	BF	H	6.80	42.1	6 1/2 x3 1/4 x 1/4	T
74		400	3-4	2175	163	190	15300	5000	B8.25/20	DB8.25/20	Wau 6MS	6-3 1/4 x4 1/2	BL 314	U 4	No	Tim 56200H	BF	R	6.16	40.6	6 1/2 x3 1/4 x 1/4	T
75		505	4-5	2775	160	190	19500	6000	B9.00/20	DB9.00/20	Wau 6MK	6-4 1/2 x4 3/4	BL 3341	U 4	No	Tim 58205H	BF	R	6.14	40.6	6 1/2 x3 1/4 x 1/4	P
76		501	4-5	3150	160	190	19500	6500	B9.00/20	DB9.00/20	Wau 6SRL	6-4 3/4 x5 1/2	Fu VUOG	U 5	No	Tim 58205H	BF	R	6.14	40.6	7x4x 1/4	C
77		(9) 600	5-6	3450	169	199	21600	7200	B9.75/20	DB9.75/20	Wau 6SRL	6-4 3/4 x5 1/2	BL 514	U 4	No	Tim 65720H	WF	H	6.00	43.2	9x4x 1/4	C
78	Mack	BL	1-2	2500	138	192	.....	4050	B6.00/20	DB6.00/20	Own BL	6-3 1/4 x5	Own BQ	U 4	No	Tim 52050	SF	H	5.20	27.6	7x3x 1/4	C
79		BG	1 1/2-3	3000	138	192	.....	4800	P32x6	DP32x6	Own BG	6-3 5/8 x5	Own BQ	U 4	No	Own BG	SF	H	5.44	26.8	7x3x 1/4	T
80		BF	2 1/2-4	4200	156	216	.....	6600	B8.25/20	DB8.25/20	Own BG	6-3 5/8 x5	Own AB	U 4	No	Own AB	2F	H	7.01	33.9	7 1/4 x3 1/4	T
81		AB	3-5	4000	147	219	.....	6450	P34x7	DP34x7	Own AB	4-4 1/4 x5	Own AB	U 4	No	Own AB	CD	R	7.72	37.4	8x2 1/4 x 1/4	T
82		AB	3-5	4200	147	219	.....	6700	P34x7	DP34x7	Own AB	4-4 1/4 x5	Own AB	U 4	No	Own AB	2F	H	7.54	36.6	8x2 1/4 x 1/4	T
83		AB	3-5	4150	147	219	.....	6450	P34x7	DP34x7	Own BG	6-3 5/8 x5	Own AB	U 4	No	Own AB	CD	R	7.72	37.4	8x2 1/4 x 1/4	T
84		AB	3-5	4500	147	219	.....	6700	P34x7	DP34x7	Own BG	6-3 5/8 x5	Own AB	U 4	No	Own AB	2F	H	7.58	36.7	8x2 1/4 x 1/4	T
85		BM	3-5	4700	157	211	.....	7500	B9.00/20	DB9.00/20	Own CE	6-4x5 1/2	Own BC	U 4	No	Own AB	2F	H	7.01	40.9	8 1/2 x3x 1/4	T
86		BC	3 1/2-6	5250	154	226	.....	7850	P36x8	DP36x8	Own CE	6-4x5 1/2	Own BC	U 4	No	Own BC	2F	H	7.58	44.2	8 1/2 x3x 1/4	T
87		BC	3 1/2-6	5500	154	226	.....	8000	P36x8	DP36x8	Own CE	6-4x5 1/2	Own BC	U 4	No	Own BC	CD	R	7.88	46.0	8 1/4 x3x 1/4	T
88		BX	3 1/2-6	5750	171	225	.....	7900	B9.75/22	DB9.75/22	Own CF	6-4 1/4 x5 1/2	Own BX	U 4	No	Own BX	CD	R	7.88	55.2	9 1/2 x3x 1/4	T
89		BX	3 1/2-6	5600	171	225	.....	8050	B9.75/22	DB9.75/22	Own CF	6-4 1/4 x5 1/2	Own BX	U 4	No	Own BX	2F	H	7.01	49.4	9 1/2 x3x 1/4	T
90		BJ	5-8	6450	168	245	.....	9800	B10.50/22	DB10.50/22	Own BK	6-4 1/4 x5 1/2	Own AL	A 4	No	Own AK	2F	H	6.92	36.4	11 1/4 x3 1/4 x 1/4	T
91		BQ	6-8	6800	191	245	.....	10000	B10.50/22	DB10.50/22	Own BQ	6-4 3/4 x5 3/4	Own BQ	A 4	No	Own AK	2F	H	7.43	47.7	10 1/2 x3x 1/4	T
92		AK	5-7 1/2	5150	162	228	.....	9500	B10.50/24 °	DB10.50/24 °	Own AC	4-5x6	Own AC	J 4	No	Own AC	CD	R	7.83	50.5	8 3/4 x3x 1/4	C
93		AK	5-7 1/2	5250	162	228	.....	9400	B10.50/24 °	DB10.50/24 °	Own AC	4-5x6	Own AK	A 4	No	Own AK	2F	H	6.92	55.3	8 1/2 x2 3/4 x 1/4	C
94		AK	6-8	6450	174	240	.....	10400	B10.50/22	DB10.50/22	Own BQ	6-4 3/4 x5 3/4	Own AC	A 4	No	Own AK	2F	H	7.43	47.7	8 1/4 x3x 1/4	C
95		BX-S	7 1/2	6250	207	225	.....	9200	B9.75/24	DB9.75/24	Own BX	6-4 1/4 x5 1/2	Own B	U 4	No	Own BX	2F	H	7.54	53.1	9 1/2 x3x 1/4	C
96		AC Light	5-7 1/2	4950	168	240	.....	9200	B10.50/24 °	DB10.50/24 °	Own AC	4-5x6	Own AC	J 4	No	Own AC	CD	R	8.46	54.4	8x3x 1/4	C
97		AC Medium	6-8	5500	168	240	.....	9800	S36x6	DS40x6	Own AC	4-5x6	Own AC	J 4	No	Own AC	CD	R	7.75	49.8	8x3x 1/4	C
98		AC Heavy	7 1/2-10	6000	168	240	.....	10150	S36x7	DS40x7	Own AC	4-5x6	Own AC	J 4	No	Own AC	CD	R	8.95	57.4	8x3x 1/4	C
99		AC	6-8	6450	174	240	.....	11400	B10.50/24	DB10.50/24	Own BQ	6-4 3/4 x5 3/4	Own AC	A 4	No	Own AC	CD	R	8.4	53.9	8 1/4 x3x 1/4	C
100		AP	7 1/2-10	8500	191	216	.....	11700	S36x7	DS40x8	Own AP	6-5x6	Own AC	J 4	No	Own AC	CD	R	8.31	53.3	8x3x 1/4	C
101	Mar.-Herr.	A10	1 1/2	2250	135	155	.....	4650	B6.50/20	DB6.50/20	Her JXA	6-3 1/4 x4 1/4	WG T9	U 4	A 2	Own-Tim	BF	H	6.60	82.0	7 1/4 x2 1/4 x 1/4	C
102	(all 4 Wh.Dr.)	A20	2 1/2	3150	135	155	.....	4900	B7.50/20	DB7.50/20	Her JXC	6-3 3/4 x4 1/4	Cla R103	U 5	A 2	Own-Tim	BF	H	5.83	80.0	7 1/4 x2 1/4 x 1/4	C
103		A30	3 1/2	4050	155	167	.....	6000	B8.25/20	DB8.25/20	Her WXC	6-4x4 1/2	Fu 5A380	U 5	A 2	Own-Tim	BF	H	6.17	116.	9 1/4 x3x 1/4	C
104		A40	4	4850	155	167	.....	7500	B9.00/20	DB9.00/20	Her WXC3	6-4 1/4 x4 1/2	Fu 5A380	U 5	A 2	Own-Tim	BF	H	7.80	133.	9 1/4 x3x 1/4	C
105		A50	4	5685	155	167	.....	8150	B9.00/20	DB9.00/20	Her WXC3	6-4 1/4 x4 1/2	Fu 5A380	U 5	A 2	Own-Wis	2F	H	8.0	136.	9 1/4 x3x 1/4	C
106		TH300	4 1/2	6285	163	193	.....	9300	B9.75/20	DB9.75/20	Her YXC	6-4 3/8 x4 3/4	Fu 5A380	U 5	A 2	Own-Wis	2F	H	8.0	142.	8 1/2 x3x 1/4	C
107		TH310	5	6785	163	193	.....	9620	B9.75/20	DB9.75/20	Her YXC3	6-4 3/4 x4 3/4	Fu 5A530	U 5	A 2	Own-Wis	2F	H	8.0	146.	8 1/4 x3x 1/4	C
108		TH310A	6	7785	163	193	.....	10120	B9.75/22	DB9.75/22	Her RXC	6-4 3/4 x5 1/4	Fu 5A530	U 5	A	Own-Wis	2F	H	7.79	140.	8 1/4 x3x 1/4	C
109		(13) TH315	7	9125	198	216	.....	10950	B10.50/20	DB10.50/20	Her HXB	6-5x6	BL 724	U 4	A 3	Own-Wis	2F	H	7.79	140.	8 1/4 x3x 1/4	P
110		(13) TH320	8	10500	198	228	.....	14200	B10.50/24	DB10.50/24	Her HXC	6-5 1/4 x6	BL 724	U 4	A 3	Own-Wis	2F	H	8.05	166.	10x3x 3/8	P
111		(13) TH330	9	12500	198	228	.....	14920	B11.25/24	DB11.25/24	Her HXD	6-5 1/2 x6	BL 734	U 4	A 3	Own-Wis	2F	H	8.40	154.	10x3x 3/8	P
112	Menominee	A-15	1 1/2	1485	144	160	8750	3750	B7.00/20	B7.00/20	Wau TL	6-3 1/4 x4 3/4	Fu MKU10	U 4	No	Cla B373	SF	R	5.00	31.7	5 1/4 x3 1/4 x 1/4	C
113		DX-6	2 1/2	2850	156	175	13760	5760	B7.50/20	B7.50/20	Wau 6-90	6-3 1/4 x4 3/4	BL 234	U 4	No	Wis 6617	2F	R	5.83	37.3	6x2 1/4 x 1/4	C
114		DN-6	3	3275	156	175	15200	6200	B8.25/20	DB8.25/20	Wau MK	6-4 1/4 x4 3/4	BL 524	U 4	No	Wis 8817	2F	R	6.72	48.9	6x2 1/4 x 1/4	C
115		A30	3	3275	165	185	15035	7035	B8.25/20	DB8.25/20	Wau MK	6-4 1/4 x4 3/4	BL 528	U 8	No	Tim 58206H	SF	R	7.8	90.8	8x3x 1/4	C
116		N-6	3 1/2	3715	165	185	16800	6800	B8.25/20

Line Number	ENGINE DETAILS: Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	Piston Material	Main Bearings: Number and Diameter	Main Bearings: Length	Oiling System Type	Governor Make	Fuel Syst.: Carburetors Make	Fuel Syst.: Fuel Feed	Electrical: Ignition System Make	Electrical: Generator, Starter Make	Clutch Type and Make	Radiator Make	Universals Make	Front Axle: Make and Model	Steering Gear Make	Brakes: Service: Make, Location Type, Operation	Brakes: Service: Lining Area	Brakes: Service: Drum Material	Brakes: Hand Location, Type	Body Mounting Data: Cab to Rear of Frame	Body Mounting Data: Cab to Rear Axle	Body Mounting Data: Width of Frame	Springs: Front	Springs: Rear	Springs: Auxiliary Type
1	462	4.6	324	45.9	125-2600	F	G	C	7-3	13⅜	PC	Wa	Zen	M	DR	DR	D.BL	Ch	Spi	Tim 27450	Ros	L4IHV	717	a	TD	Opt	Opt	34	43x3½	66x4	N
2	298	5.3	200	33.7	80-2800	L	C	C	7-3	9⅝	PC	Pe	Zen	M	AL	DR	P.BB	Yo	Blo	Cla F318	Ros	L4IH	318	p	CD	81	61	31½	41x2½	54⅞x3	½
3	298	5.3	200	33.7	80-2800	L	C	C	7-3	9⅝	PC	Pe	Zen	M	AL	DR	P.BB	Yo	Blo	Cla F318	Ros	L4IH	380	p	CD	81	61	31½	41x2½	54⅞x3	½
4	428	4.8	280	45.9	107-2600	L	G	B	7-3	11½	PC	Pe	Zen	M	AL	DR	D.Fu	Yo	Blo	Shu 632-5	Ros	L4IH	620	p G	CD	115	72½	31½	41⅞x2½	54⅞x3	½
5	369	4.8	234	39.6	99-2800	L	G	B	7-3	11½	PC	Pe	Zen	M	AL	DR	BL 61	Yo	Blo	Cla F318	Ros	L4IH	380	p	CD	81	61	31½	41x2½	54⅞x3	½
6	369	4.8	234	39.6	99-2800	L	G	B	7-3	11½	PC	Pe	Zen	M	DR	DR	D.Fu	Yo	Blo	Shu 610-103	Ros	W2IM	326	G	TD	88¾	65	34½	41⅞x2½	48½x3	½
7	428	4.8	280	45.9	107-2600	L	G	B	7-3	11½	PC	Pe	Zen	M	DR	DR	D.Fu	Yo	Blo	Shu 610-103	Ros	W2IM	405	G	TD	94½	70¾	34	41⅞x2½	48½x3	½
8	428	4.8	280	45.9	107-2600	L	G	B	7-3	11½	PC	Pe	Zen	M	AL	DR	D.Fu	Yo	Blo	Shu 632-3	Ros	L4IH	620	p G	CD	96½	70¾	31½	41⅞x2½	54⅞x3	½
9	428	4.8	280	45.9	107-2600	L	G	B	7-3	11½	PC	Pe	Zen	M	DR	DR	D.Fu	Yo	Blo	Shu 610-103	Ros	W2IM	360	G	TD	110¼	86½	35	41⅞x2½	48½x3½	½
10	525	4.8	336	48.6	111-2200	L	G	B	7-3	11½	PC	Pe	Zen	M	AL	DR	D.Fu	Yo	Blo	Shu 633-11	Ros	L4IH	556	p G	CD	96½	64	31½	41⅞x2½	54⅞x3	½
11	525	4.8	336	48.6	111-2200	L	G	B	7-3	11½	PC	Pe	Zen	M	DR	DR	D.Fu	Yo	Blo	Shu 610-103	Ros	W2IM	360	G	TD	119	86½	35	41⅞x2½	48½x3	½
12	228	4.7	142	27.3	59-2800	L	G	C	7-2½	10⅜	PC	Op	Str	M	AL	AL	P.BL	Yo	Spi	Tim 30020H	Ros	L4IH	249	G	TX	92	56	34	37x2¼	54x2½	½
13	282	5.4	176	33.8	73-2800	L	G	A	7-2½	10⅜	PC	Opt	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L4IH	...	G	CD	92	56	34	37x2¼	54x2½	N
14	282	5.3	176	33.7	73-2800	L	G	A	7-2½	10⅜	PC	Op	Str	M	AL	AL	P.BL	Yo	Spi	Tim 31020	Ros	L4IH	356	G	TX	92	56	34	37x2¼	54x2½	N
15	282	5.3	176	33.7	73-2800	L	G	A	7-2½	10⅜	PC	Op	Str	M	AL	AL	P.BL	Yo	Spi	Tim 31020	Ros	L4IH	356	G	TX	92	56	34	37x2¼	54x2½	½
16	298	4.7	190	33.7	70-2600	L	G	A	7-2⅝	13¼	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L4IH	...	G	CD	92	56	34	37x2¼	54x2½	N
17	361	4.7	235	38.4	82-2400	L	G	A	7-2⅝	13¼	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L4IHV	...	G	CD	108	73¼	34	39½x2½	54x3	N
18	339	4.7	210	38.4	76-2400	L	G	A	7-2⅝	13¼	PC	Opt	Str	M	AL	AL	P.BL	Yo	Spi	Shu 5572	Ros	L4IH	380	G	TX	108	69⅜	34	39½x2½	54x3	½
19	339	4.7	210	38.4	76-2400	L	G	A	7-2⅝	13¼	PC	Opt	Str	M	AL	AL	P.BL	Yo	Spi	Shu 5572	Ros	L4IHV	380	G	CD	108	69⅜	34	39½x2½	54x3	½
20	428	4.4	283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 15582B	Ros	L4IHV	398	G	CD	142	83	34½	40x2½	54x3	½
21	428	4.4	283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 15582	Ros	L4IHV	398	G	CD	142	83	34½	40x2½	54x3	½
22	428	4.4	283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 15582	Ros	L4IHV	398	G	CD	142	83	34½	40x2½	54x3	½
23	428	4.5	283	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L4IHV	...	G	CD	120	72	34	44x3	50x4	N
24	478	4.4	315	51.3	104-2200	L	G	A	7-3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	SPC	Tim	Ros	L4IHV	918	G	CD	120	72	34	44x3	50x4	N
25	501	4.9	330	48.6	110-2200	L	G	A	7-3	12½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 15592B	Ros	L4IHV	546	G	CD	142	83	34½	40x2½	54x3	½
26	707	4.5	455	60.	148-2000	L	G	A	7-3½	17½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L4IHV	...	G	CD	144	88	34	44x3	50x4	N
27	529	4.9	350	51.3	115-2200	L	G	A	7-3	12½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 15592B	Ros	L4IHV	546	G	CD	142	83	34½	40x2½	54x3	½
28	779	4.5	505	66.2	163-2000	L	G	A	7-3½	17½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	Ws4IA	...	G	CD	168	100	34	44x3	50x4	N
29	213	5.0	133	26.3	66-3400	L	C	C	4-2⅝	6¼	FP	No	Til	M	AL	AL	B-W	Mo	Spi	Own D-50	Own	B4IM	156	P	21	54	29¼	Var	36½x1¾	51x1¾	N
30	186	4.6	124	21.	39-2400	L	G	C	3-2	6¼	FP	No	Zen	V	DR	DR	P.MM	Mo	MM	Own 104	Ros	B4IM	217	Pa	TX	66	35	32½	40x2	46x2½	¼
31	186	4.6	124	21.	39-2400	L	G	C	3-2	6¼	FP	No	Zen	V	DR	DR	P.MM	Mo	MM	Own 101	Ros	B4IM	212	P	21	93⅜	53⅜	32½	40x2	46x2½	N
32	186	4.6	124	21.	39-2400	L	G	C	3-2	6¼	FP	No	Zen	V	DR	DR	P.MM	Mo	MM	Own 101	Ros	B4IM	212	P	21	93⅜	53⅜	32½	40x2	46x2½	N
33	224	4.7	138	25.3	54-2700	L	G	A	4-2⅝	7½	PC	No	Zen	M	DR	DR	P.Ro	Mo	MM	Own 105	Ros	B4IM	287	P	21	93⅜	53⅜	32	40x2	46x2½	½
34	224	4.7	138	25.3	54-2700	L	G	A	4-2⅝	7½	PC	No	Zen	M	DR	DR	P.Ro	Mo	MM	Own 200	Ros	B4IM	302	P	21	93⅜	53⅜	32	40x2¼	46x2½	½
35	224	4.7	138	25.3	54-2700	L	G	A	4-2⅝	7½	PC	No	Zen	V	DR	DR	P.Ow	Mo	MM	Own 200	Ros	B4IM	295	Pa	2I	98½	55⅝	32	40x2¼	52x2½	¼
36	297	4.7	176	33.7	73-2900	H	G	C	4-2⅝	6	FP	Ha	Til	M	DR	DR	P.Ro	Mo	MM	Own 108	Ros	B4IM	271	Pa	2I	93⅜	53⅜	32	40x2	46x2½	¼
37	223	5.4	154	28.3	63-2200	H	G	C	4-2⅝	6	FP	Ha	Til	M	DR	DR	P.Ow	Mo	MM	Own 108	Ros	B4IM	303	Pa	2I	106½	62½	34	40x2	54x3	½
38	279	4.6	176	31.5	67-2600	H	G	C	7-2½	13	FP	Ha	Zen	M	DR	DR	P.Ow	Mo	MM	Own 251	Ros	B4IM	378	Pa	2I	104	61½	34	42x3	54x3	½
39	279	4.6	176	31.5	67-2600	H	G	C	7-2½	13	FP	Ha	Zen	M	DR	DR	P.Ow	Mo	MM	Own 300	Ros	B4IM	430	Pa	2I	115	72½	34	42x3	56x3	½
40	279	4.6	176	31.5	67-2600	H	G	C	7-2½	13½	FP	Ha	Zen	M	DR	DR	P.Ow	Mo	MM	Own 300	Ros	B4IM	430	Pa	2I	115	72½	34	42x3	56x3	½
41	312	4.0	200	28.9	59-1800	H	C	A	3-2¾	7⅜	FP	HS	Zen	V	RB	DR	P.Ow	Ow	Own	Own 400	Own	BO4IM	710	Pa	2I	106½	73¼	34	41½x3	56x3½	¼
42	390	3.8	240	36.1	69-1800	H	C	A	3-3	7⅜	FP	HS	Zen	V	RB	DR	P.Ow	Ow	Own	Own 500	Own	BO4IM	794	Pa	2I	120	81⅛	34	44x3	58x4	¼
43	525	4.5	315	48.6	98-1800	H	G	C	7-3¼	17¾	FP	Ha	Zen	M	DR	DR	P.Ro	Mo	MM	Own 503	Ros	804IMV	729	Pa	TD	106	72	34	48x3	56x3	N
44	648	4.4	398	60.0	114-1800	H	G	C	7-3¼	17¾	FP	Ha	Zen	M	DR	DR	P.Ro	Mo	MM	Own 503	Ros	804IMV	729	Pa	TD	106	72	34	48x3	56x3	N
45	282	4.7	176	33.7	73-2700	L	G	A	7-2½	10⅜	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IH	335	a	TX	108	60	31½	38x2¼	52x2½	N
46	298	4.7	200	33.7	80-2800	L	G	C	7-3	9⅝	CC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IH	335	a	FD	96	60	31½	39x2½	52x3	½
47	282	4.7	176	33.7	73-2700	L	G	A	7-2½	10⅜	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IH	335	a	TX	108	60	31½	38x2¼	52x2½	½
48	329	4.4	212	38.4	76-2400	L	C	A	7-2½	13¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IH	335	a	FD	110	72	31½	40x2½	52x3	½
49	282	4.7	176	33.7	73-2700	L	G	A	7-2½	10⅜	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L4IH	394	a	TX	108	60	31½	38x2¼	52x3	½
50	393	4.9	260	42.1	103-2600	L	G	C	7-3	11½	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IHV	394	a	FD	120	72	31½	40x2¼	52x3	½
51	393	4.9	260	42.1	103-2600	L	G	C	7-3	11½	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35100H	Ros	L4IHV	455	a	FD	120	72	33¾	42x2½	56x3½	½
52	377	4.9	258	38.4	92-2300	H	C	A	4-2⅞	11½	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35100H	Ros	L4IHV	455	a	FD	120	72	33¾	42x2½	56x3½	½
53	453	4.8	300	48.6	98-2200	L	G	A	7-3	14	CC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35100H	Ros	L4IHV	602	a	FD	110	72	33¾	42x2½	56x3½	½
54	501	4.9	330	48.6	110-2200	L	G	A	7-3	12½	CC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws2ImV	407	a	FD	132	84	33¾	42x3	56x4	½
55	468	4.4	322	43.3	125-2400	H	C	A	4-2¾	10⅜	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws2ImV	407	a	FD	132	84	33¾	42x3	56x4	½
56	572	4.3	358	48.6	114-1900	L	G	C	4-3	10⅞	CC	Bu	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws2ImV	407	a	FD	132	84	33¾	42x3	56x4	½
57	707	4.4	506	60.0	170-2000	H	C	A	7-3¼	11⅛	FP	HS	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	Ws2ImV	407	a	FD	132	84	33¾	42x3	56x4	½
58	214	4.9	137	27.3	61-3000	L	C	C	7-2⅛	8⅜	FP	No	Str	V	DR	DR	D.BL	Mo	Spi	Tim 30000H	Ros	L4IH	308	G	TX	101	64	34	38x2¼	52x2½	N
59	248	5.	172	27.4	78-3100	L	C	C	7-2¾	10⅛	PC	No	Str	M	DR	DR	D.BL	Ow	Spi	Tim 31000H	Ros	L4IH	452	G	TX	126	76	34	38x2½	52x2½	½
60	288	4.6	182	32.6	73-2700	L	C	C	7-2¾	12⅜	PC	No	Str	M	DR	DR	D.BL	Ow	Spi	Tim 31000H	Ros	L4IH	354	G	F	166	76	34	38x2½	52x3	½
61	318	4.6	204	36.0	80-2700	L	C	C	7-2¾	12⅜	FP	No	Str	V	DR	DR	D.BL	Ow	Spi	Tim 33020H	Ros	L4IH	648	G	TD	172	104	34	38x2½	52x3	½
62	427	4.2	270	45.9	102-2400	H	C	C	7-2¾	12⅜	FP	No	Str	M	DR	DR	D.BL	Ow	Spi	Tim 35020H	Ros	L4IHV	648	G	TD	170	108	34	38x2½	52x3	½
63	672	15.	420	57.0	125-1800	H	G	N	7-3¼	13⅛	FP	En	No	M	No	LN	D.BL	Ow	Spi	Tim 26450	Ros	Ws4IA	849	G	FD	180	130	38	44½	52x3	½
64	224	4.7	145	25.3	61-2800	L	G	C	4-2⅝	8⅛	PC	No	Zen	M	AL	AL	P.BB	Pe	Spi	Tim 30000H	Ros	L4IH	287	Da	TX	110¾	67½	31⅞	38x2	52½x2½	½
65	242	5.0	160	27.3	65-2800	L	G	C	4-2⅝	8⅛	PC	No	Zen	M	AL	AL	P.BB	Pe	Spi	Tim 31000H	Ros	L4IH	271	Da	TX	143¾	79½	32	38x2	52½x2½	½
66	299	4.9	195	33.5	82-2600	L	G	C	4-2⅝	10	PC	Ha	Zen	M	AL	AL	P.BB	Pe	Spi	Tim 31000H	Ros	L4IHV	327	Da	TX	120	78¾	32	38x2	57½x2	½
67	381	4.4	240	40.8	85-2500	L	G	C	7-2⅝	12½	CC	Ha	Zen	M	AL	AL	D.Fu	Pe	Spi	Tim 33000H	Ros	L4IHV	367	Da	FD	140¼	93	32	39x2½	60x3	½
68	354	4.3	228	36.2	86-2300	L	G	C	7-2⅝	12½	CC	Ha	Zen	M	AL	AL	D.Fu	Pe	Spi	Tim 33000H	Ros	L4IHV	458	Da	FD	144	75	32	39x2½	60x3	½
69	462	4.6	310	46.	97-2000	L	G	C	7-3	13⅞	PC	Wa	Zen	M	AL	AL	D.Fu	Pe	Spi	Tim 35000H	Ros	L4IHV	468	Da	FD	168	88	32½	44x3	60x3½	½
70	462	4.6	324	46.	125-2400	L	G	C	7-3	13¾	PC	Wa	Zen	M	AL	AL	D.Fu	Ow	Spi	Tim 27450W	Ros	Ws4IA	690	Da	FD	168	81¼	34	44x3	60x3½	N
71	248	4.4	150	27.3	65-2800	L	C	A	7-2¾	10⅛	PC	No	Str	M	DR	DR	D.BL	Ch	Spi	Tim 30000H	Ros	L4IH	275	c	TX	96	58	34	37½x2¼	49½x2½	½
72	248	4.4	150	27.3	65-2800	L	C	A	7-2¾	10⅛	PC	No	Str	M	DR	DR	D.BL	Ch	Spi	Tim 30000H	Ros	L4IH	275	c	TX	128	81	34	37½x2¼	50x2½	½
73	248	4.4	150	27.3	65-2800	L	G	A	7-2¾	10⅛	PC	No	Str	M	DR	DR	D.BL	Ch	Spi	Tim 31000H	Ros	L4IH	293	c	TX	128	81	34	37½x2¼	50x2½	½
74	315	4.6	200	33.7	72-2500	L	G	C	7-2¾	12⅜	PC	No	Str	M	DR	DR	D.BL	Ch	Spi	Tim 33000H	Ros	L4IH	345	c	TX	128	81	34	37½x2¼	50½x2½	½
75	381	4.4	242	40.8	85-2500	L	G	C	7-2⅝	12½	PC	No	Str	M	DR	DR	D.BL	Ch	Spi	Tim 33000H	Ros	L4IHV	385	c	CD	128	81	34	39x2½	53x3	½
76	462	4.5	300	45.9	98-2000	L	G	A	7-3	13⅞	PC	Wa	Str	M	DR	DR	D.Fu	Ch	Spi	Tim 35000H	Ros	L4IHV	385	c	CD	128	81	34	39x2½	53x3	½
77	462	4.5	300	45.9	98-2000	L	G	A	7-3	13⅞	PC	Wa	Str	M	DR	DR	D.Fu	Ch	Spi	Tim 35000H	Ros	L4IHV	485	c	RI	128	81	34	39x2½	53x3	½
78	248	4.9	145	25.4	64-3000	L	G	C	7-2⅛	10⅜	FP	Ha	Str	M	RB	NE	P.Ow	Ow	Spi	Own BL	Own	L4IH	302	P	FX	120	72½	33	40⅞x2½	52¼x2½	N
79	309	4.7	183	31.5	75-2500	L	G	C	7-2⅛	10⅜	FP	Ha	Str	M	RB	NE	P.Ow	Ow	Spi	Own BG	Own	O4IMV	427	a	FX	120	72½	33	42x2½	54x3	N
80	309	4.7	183	31.5	75-2500	L	G	C	7-2⅛	10⅜	FP	Ha	Str	M	RB	NE	P.Ow	Ow	Spi	Own BF	Own	O4IMV	427	a	FX	120	84½	33	44x2½	54x3	½
81	283	4.4	176	28.9	63-2100	L	G	C	3-3	8	PS	Ow	Str	G	RB	NE	D.Ow	Ow	Spi	Own AB	Own	O4IMV	471	a	FX	120	73	33¼	42¼x3	48x3	N
82	283	4.4	176	28.9	63-2100	L	G	C	3-3	8	PS	Ow	Str	G	RB	NE	D.Ow	Ow	Spi	Own AB	Own	O4IMV	471	a	FX	120	73	33¼	42¼x3	56¼x3½	N
83	309	4.7	183	31.5	75-2500	L	G	C	7-2⅛	10⅜	FP	Ha	Str	M	RB	NE	P.Ow	Ow	Spi	Own AB	Own	O4IMV	471	a	FX	120	73	33¼	42¼x3	48x3	N
84	309	4.7	183	31.5	75-2500	L	G	C	7-2⅛	10⅜	FP	Ha	Str	M	RB	NE	P.Ow	Ow	Spi	Own AB	Own	O4IMV	471	a	FX	120	73	33¼	42¼x3	56¼x3½	N
85	414	4.6	261	38.4	98-2400	L	G	C	7-3	12	FP	Pe	Str	M	RB	NE	P.Ow	Ow	Spi	Own BM	Own	O4IMV	427	a	FX	120	102½	33¼	44x2½	54x3½	N
86	414	4.6	261	38.4	98-2400	L	G	C	7-3	12	FP	Pe	Str	M	RB	NE	P.Ow	Ow	Spi	Own BC	Own	O4IMV	610	a	FX	120	73	33¼	43¾x3	56¼x3½	N
87	414	4.6	261	38.4	98-2400	L	G	C	7-3	12	FP	Pe	Str	M	RB	NE	P.Ow	Ow	Spi	Own BC	Own	O4IMV	590	a	JX	120	73	33¼	43¾x3	54x3	N
88	468	4.7	292	43.4	108-2400	L	G	C	7-3	12	FP	Pe	Str	M	RB	NE	P.Ow	Ow	Spi	Own BX	Own	O4IMV	619	a	FX	120	73	33¼	43¾x3	53x3	N
89	468	4.7	292	43.4	108-2400	L	G	C	7-3	12	FP	Pe	Str	M	RB	NE	P.Ow	Ow	Spi	Own BX	Own	O4IMV	619	a	FX	120	73	33¼	43¾x3	53x3	N
90	525	4.8	383	48.6	125-2300	L	G	C	4-3½	10⅛	FP	Ow	Str	M	RB	NE	P.Ow	Ow	Cle	Own AK	Own	O4IMV	618	a	FX	120	79	33¼	50x3½	59¼x4	¼
91	611	5.	398	54.2	128-2300	L	G	C	4-3½	10⅛	FP	Ow	Str	M	RB	NE	P.Ow	Ow	Cle	Own BQ	Own	O4IMV	618	a	FX	150	102	33¼	50x3½	58¼x3½	¼
92	471	4.0	320	40.0	75-1800	L	G	C	3-3	10⅛	PS	Ow	Str	G	RB	ns	P.Ow	Ow	Spi	Own AK	Own	O4IMV	561	a	JX	132	93	37½	48x3½	52x4	½
93	471	4.0	320	40.0	75-1800	L	G	C	3-3	10⅛	PS	Ow	Str	G	RB	ns	P.Ow	Ow	Spi	Own AK	Own	O4IMV	561	a	FX	132	93	37½	48x3½	56x4	½
94	611	5.7	398	54.2	128-2300	L	G	C	4-3½	10⅞	FP	Ow	Str	M	RB	NE	P.Ow	Ow	Spi	Own AK	Ros	O4IMV	561	a	FX	132	93	37½	47¼x3½	58½x4	½
95	468	4.7	292	43.4	104-2300	L	G	C	7-3	13¼	FP	Ha	Str	M	RB	NE	P.Ow	Ow	Spi	Own BC	Ros	O4IMV	619	a	FX	212	138	33¼	53¼x3	56¼x3½	N
96	471	4.0	320	40.0	75-1800	L	G	C	3-3	10⅛	PS	Ow	Str	G	RB	ns	P.Ow	Ow	Spi	Own AC	Own	OJXM	194	c	2I	156	104	37½	46x3½	52x4	½
97	471	4.0	320	40.0	75-1800	L	G	C	3-3	10⅛	PS	Ow	Str	G	RB	ns	P.Ow	Ow	Spi	Own AC	Own	OJXM	194	c	2I	156	104	37½	46x3½	52x4	½
98	471	4.0	320	40.0	75-1800	L	G	C	3-3	10⅛	PS	Ow	Str	G	RB	ns	P.Ow	Ow	Spi	Own AC	Own	OJXM	194	c	2I	156	104	37½	46x3½	52x4	½
99	611	5.7	398	54.2	128-2300	L	G	C	4-3½	10⅞	FP	Ow	Str	M	RB	NE	P.Ow	Ow	Spi	Own AK	Ros	O4IMV	755	c	2I	156	105	37½	48x3½	52x4	½
100	706	4.4	427	60.0	138-1900	L	G	C	8-3¼	11⅛	PS	Ow	Str	M	RB	NE	P.Ow	Ow	Spi	Own AK	Ros	O4IMV	755	c	2I	180	108¼	37½	46¼x3½	52x4	½
101	228	4.7	156	27.3	63-2800	L	G	C	7-2⅛	10⅛	PC	No	Zen	M	DR	DR	P.BB	Yo	Spi	TWH	Ros	L4IH	380	a	FX	88	52	34	42x2¼	50x2½	½
102	282	5.3	193	33.7	73-2800	L	G	C	7-2⅛	10⅛	PC	No	Zen	M	DR	DR	P.BB	Yo	Spi	TWH	Ros	L4IH	452	a	FD	88	52	34	42x2½	50x2½	½
103	339	5.0	235	38.4	94-2800	L	G	A	7-2⅝	13¼	PC	No	Zen	M	DR	DR	P.BB	Yo	Spi	TWH	Ros	L4IHV	578	a	FD	119	72	34	44x3	52x3	½
104	383	5.0	265	43.3	106-2800	L	G	A	7-2⅝	13¼	PC	No	Zen	M	DR	DR	P.BB	Yo	Blo	TWH	Ros	L4IHV	660	a	FD	119	72	43	44x3	52x3	½
105	383	5.0	265	43.3	106-2800	L	G	A	7-2⅝	13¼	PC	Ha	Zen	M	DR	DR	P.BB	Yo	Blo	Own-Wis	Ros	W2/4IA	812	a	FD	119	72	34	44x3	52x3	½
106	428	4.4	280	45.9	94-2200	L	G	A	7-3	14	PC	Ha	Zen	M	DR	DR	D.Fu	Yo	Blo	Own-Wis	Ros	W2/4IA	812	a	FD	109	72	34	44x3	52x3½	½
107	478	4.4	315	51.3	104-2200	L	G	A	7-3	14	PC	Ha	Zen	M	DR	DR	D.Fu	Yo	Blo	Own-Wis	Ros	W2/4IA	918	a	FD	109	72	34	44x3	52x3½	½
108	529	4.9	350	51.3	114-2200	L	G	A	7-3	14	PC	Ha	Zen	M	DR	DR	D.Fu	Yo	Blo	Own-Wis	Ros	W2/4IA	918	a	FD	109	72	34	44x3	52x3½	½
109	707	4.5	460	60.0	150-2000	L	G	A	7-3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	Ws2/4IA	974	a	FD	168	102	34	52x4	54x4	½
110	779	4.5	508	66.2	164-2000	L	G	A	7-3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	Ws2/4IA	974	a	2FD	140	102	34	52x4	54x4	½
111	855	4.5	550	72.8	180-2000	L	G	A	7-3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	Ws2/4IA	974	a	2FD	140	102	34	52x4	54x4	½

Line Number	MAKE AND MODEL	GENERAL (See Keynote) Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	TIRE SIZE Front	Rear	MAJOR UNITS ENGINE Make and Model	ENGINE No. of Cylinders Bore and Stroke	TRANSMISSION Make and Model	TRANSMISSION Location and Forward Speeds	TRANSMISSION Aux. Location and Speeds	REAR AXLE Make and Model	REAR AXLE Gear and Type	REAR AXLE Drive and Torque	GEAR RATIOS In High	GEAR RATIOS In Low	FRAME Side Rail Dimensions	FRAME Type
1	Moreland.....E22	6	3405	184	Op	22000	7150	B9.75/20	DB9.75/20	Her WXC3	6-4¼x4½	BL 524,	U 4	No	Tim 65720H	WF	R,7.25	44.5	9	9¼x3½x⅝	T
2	(Concluded)..H26	6	4815	196	Op	26000	8900	B9.75/20	DB9.75/20	Her RXB	6-4½x5¼	BL 524	U 4	No	Tim 66720W	WF	R	8.20	59.8	9½x3½x⅝	T
3	Omort.....20	2	1095	131	210	10000	3725	B6.00/20	DB6.00/20	Her JXA	6-3⅜x4¼	WG T9	U 4	No	Tim 53200H	BF	H	6.20	39.6	6x2¾x¼	L
4	25	2½	2650	130	130	16000	6100	P32x6	DP32x6	Her WXB	6-3⅜x4¼	Fu MGU	U 4	No	Wis 6787L	2F	R	6.41	41.6	6x3½x⅞	I
5	30	3	3250	134	148	18000	6600	P34x7	DP34x7	Her WXB	6-3⅜x4½	Fu MGOG	A 4	U 2	Wis 8817L	2F	R	7.93	65.0	6x3½x⅞	I
6	35	3½	3850	150	150	21000	7600	P36x8	DP36x8	Her WXC	6-4x4½	Fu MGOG	A 4	U 2	Wis 1567H	2F	R	9.11	74.7	6x3½x½	I
7	Oshkosh.....JSW	1½–2	2650	123	Op	10660	4880	B7.00/20	DB7.00/20	Her WXC	6-4x4½	BL 224	U 4	No	Own JSB	SF	H	6.19	40.1	6x3½x¼	Tf
8	(All 4Wh. Dr) .JSB	1½–2	2490	149	Op	10750	4760	B7.00/20	DB7.00/20	Her JXC	6-3⅜x4¼	BL 51–4	U 4	No	Own JSB	SF	H	6.19	40.1	6x3½x¼	Tf
9	.....LB	2–2½	3750	146	165	13900	6700	B9.00/20	B9.00/20	Her JXC	6-3⅜x4¼	BL 51-4	U 4	No	Own LB	2F	H	7.3	39.0	7x3¼	T
10	LC	2½–3	4000	146	165	15150	6950	B9.00/20	B9.00/20	Her WXC	6-4x4½	BL 55-4	U 4	No	Own LC	2F	H	7.3	53.1	7x3¼	L
11	.....B3S	3½–4	4960	146	165	19475	8175	B10.50/20	B10.50/20	Her WXC3	6-4¼x4½	Fu 5A380	U 5	A 2	Own B3S	SF	H	6.10	86.2	7x3½	L
12	.....B3D	3½x4	5390	146	165	19700	8400	B10.50/20	B10.50/20	Her WXB3	6-4¼x4½	Fu 5A380	U 5	A 2	Own B3D	2F	H	7.00	98.0	7x3½	L
13	.....C3S	4–5	5150	148	165	21850	8350	B11.25/20	B11.25/20	Her YXC2	6-4½x4¾	Fu 5A530	U 5	A 2	Own C3S	SF	H	6.10	86.8	7x3½	L
14	.....C3D	4–5	5795	146	165	22200	8700	B11.25/20	B11.25/20	Her YXC2	6-4½x4¾	Fu 5A530	U 5	A 2	Own C3D	2F	H	6.40	90.2	7x3½	L
15	.....FC	5	5990	146	165	22725	9225	B11.25/20	B11.25/20	Her RXB	6-4½x5¼	Fu 5A530	U 5	No	Own FC	2F	H	7.60	67.6	7x3½	L
16	.....FB	5–6	6350	146	165	25000	9500	B11.25/20	B11.25/20	Her RXC	6-4½x5¼	Fu 5A530	U 5	A 2	Own FB	2F	H	7.60	106.	7x3½	L
17	.....FD	6–7½	7350	146	165	30000	11500	B10.50/20	DB10.50/20	Her RXC	6-4½x5¼	Fu 5A530	U 5	A 2	Own FD	2F	H	7.20	101.	8x3½	L
18	.....BG3	7½–10	8500	165	175	37000	13200	P40x10	DP40x10	Her GXB	6-5x5¾	BL 734	U 4	A 3	Own BG3	2F	H	6.20	101.	10x3¼x½	L
19	.....GD	10	9800	165	175	38000	14200	B13.50/20	B13.50/20	Her HXD	6-5½x6	BL 734	U 4	A 3	Own GD	2F	H	6.10	99.3	10x3¼x½	L
20	Pierce-Arrow 13S385	2–2½	2500	160	200	13000	5750	B8.25/20	DB8.25/20	Own 8	8-3½x5	Co RU48SL	U 4	No	Tim 56200	SF	R	5.28	32.6	7⅝x3½x⅞	C
21	.....15T298	3–3½	1950	150	200	15000	5725	B8.25/20	DB8.25/20	Her WXB	6-3⅜x4½	Co RU48SL	U 4	Op	Tim 56200	SF	R	6.16	40.2	7⅝x3½x⅞	C
22	.....17T361	3–4	2350	150	200	17000	5725	B9.00/20	DB9.00/20	Her WXC2	6-4¼x4½	Co RU4SL	U 4	Op	Tim 58200	SF	R	6.83	42.2	7⅝x3½x⅞	C
23	.....18W361	3½–4½	3000	150	220	18000	6660	B9.00/20	DB9.00/20	Her WXC2	6-4¼x4½	Co RU4SL	U 4	Op	Tim 65720	WF	R	6.8	42.	8½x2½x⅞	C
24	.....19R479	3½–4½	3600	150	220	19000	7850	B9.00/20	DB9.00/20	Her YXC3	6-4½x4¾	Co TNU	U 4	Op	Tim 65720	WF	R	5.4	286.	8½x2½x⅞	C
25	.....24X479	5–6	4150	150	200	24000	9250	B10.50/20	DB10.50/20	Her YXC3	6-4½x4¾	Co TNU	U 4	Op	Tim 66720	WF	R	7.6	402.	9½x2½x⅞	C
26	.....28M611	6–7	5400	160	200	28000	11600	B10.50/24	DB10.50/24	Her GXA	6-4¼x5¾	Own	A 4	Op	Own	WF	R	10.	525.	9½x2½x⅞	C
27	Reo.....BN	1600 lb.	530	130	130	5500	2805	B6.50/18	B6.50/18	Own	6-3½x5	Own	U 3	O 2	Own	BF	H	4.9	16.1	17¼x2½x⅝	C
28	.....1A, (1C†)	1–1½	575	136	160	9000	3135	B6.00/20	DB6.00/20	Own	4-3⅛x4½	Own	U 4	O 2	Own	SF	H	5.8	38.	7⅞x3¼x⅞	C
29	.....1B, (1D†)	1½–2½	595	140	164	10500	3260	B6.00/20	DB6.00/20	Own	6-3½x5	Own	U 4	O 2	Own	SF	H	5.28	34.8	7x2¾x⅝	C
30	.....2B-2D	2–3	845	142	166	12500	3865	B6.50/20	DB6.50/20	Own	6-3⅜x5	Own	U 4	O 2	Own	SF	H	5.83	38.4	7x3¼	C
31	.....2H (2J, 2K††)	2–4	1245	142	184	15000	4475	B7.00/20	DB7.00/20	Own	6-3⅜x5	Own	U 4	O 2	Own	SF	H	6.6	42.9	7x1¼x3	C
32	.....3H(3J,3K,3M††)	2–5	1795	170	205	17500	5125	B7.50/20	DB7.50/20	Own	6-3⅜x5	Own	U 4	O 2	Own	SF	H	6.5	42.9	8¼x1¼x3	C
33	.....4H,4J,4K,4M	4–6	2595	170	205	20000	6280	B9.00/20	DB9.00/20	Own	8-3⅜x5	Own	U 4	O 2	Own	SF	H	6.14	40.5	10x3x¼	C
34	Schacht.....10HA	1½–2½	1295	156	195	11500	4850	B6.50/20	DB6.50/20	Con 16C	6-3⅜x4⅝	BL 35	U 4	No	Tim	BF	H	5.83	31.2	6x3x¼	P
35	.....15HA	2½–3½	1735	156	195	13000	5200	B8.25/20	DB8.25/20	Con 16C	6-3⅜x4⅝	BL 35	U 4	No	Tim	BF	H	6.06	38.5	6x3x¼	P
36	.....20HA	2½–4	2185	160	207	15300	5450	B8.25/20	DB8.25/20	Her WXC	6-4x4½	Own	U 5	No	Tim	BF	R	6.06	38.5	6x3x¼	P
37	.....25HA	3–4½	2695	146	213	19500	5750	B9.00/20	DB9.00/20	Her WXC	6-4x4½	Fu 5A–38	U 4	No	Tim	BF	R	6.02	39.2	7x3x¼	P
38	.....28HA	4–5½	3050	146	227	23000	6600	B9.75/20	DB9.75/20	Her WXC	6-4x4½	Fu 5A–38	U 4	No	Tim	BF	R	6.83	43.8	7x3x¼	P
39	.....30HA	4½–6	3250	146	227	23000	6800	B9.75/20	DB9.75/20	Her WXC	6-4x4½	Fu 5A–38	U 4	No	Wis	2F	R	7.14	46.4	7x3x¼	P
40	.....35HA	5–7	3725	146	227	24000	7400	B9.75/20	DB9.75/20	Her WXC2	6-4¼x4½	Fu 5A–53	U 5	No	Own	2F	R	8.00	52.1	8¼x3x⅞	P
41	.....40H	5–7	4295	154	235	25500	7600	B9.75/20	DB9.75/20	Her YXC	6-4⅜x4¾	Fu 5A–53	U 5	No	Wis	2F	R	7.07	49.7	8¼x3x⅞	P
42	.....40HB	7–9	4695	154	235	29500	7750	B10.50/20	DB10.50/20	Her YXC	6-4⅜x4¾	Fu 5A–53	U 5	No	Wis	2F	R	7.07	49.7	8¼x3x⅞	P
43	.....66HA	8–11	5895	152	247	35000	9820	B10.50/24	DB10.50/24	Her RXC	6-4⅜x5¼	Fu 5A–53	U 5	No	Wis	2F	R	7.07	49.8	8¼x3x⅞	P
44	.....(T) TRD	10	4150	148	174	35000	7100	B9.00/20	DB9.00/20	Her YXC	6-4⅜x4¾	Fu 5A–53	U 5	No	Own	2F	R	7.8	56.8	7x3x¼	P
45	.....(T) TRDA	12	4350	148	174	39000	7226	B9.75/20	DB9.75/20	Her YXC3	6-4½x4¾	Fu 5A–53	U 5	No	Own	2F	R	7.8	56.8	7x3x¼	P
46	.....(T) TRDB	15	4595	148	174	45000	7326	B9.75/20	DB9.75/20	Her RXC	6-4½x5¼	Fu 5A–53	U 5	No	Wis	2F	R	7.8	56.8	7x3x¼	P
47	Sterling.....FB40	1½–2	1135	142	162	11000	3450	B6.50/20	DB6.50/20	Con 25A	6-3⅜x4	WG T9	U 4	No	Own	BF	H	5.66	36.2	6x2⅝x⅞	C
48	.....FB50	2–2½	1240	142	162	11500	3650	B7.00/20	DB7.00/20	Con 25A	6-3⅜x4	WG T9	U 4	No	Own	BF	H	5.66	36.2	6x2⅝x⅞	C
49	.....FB60	2½–3	1590	142	162	14000	4150	B7.00/20	DB7.00/20	Wau TL	6-3⅜x4⅝	WG T9	U 4	No	Own	BF	H	5.83	37.3	6x2⅝x⅞	C
50	.....FB70	2½–3	2635	174	204	17000	5755	B7 .50/20	B7.50/20	Wau ML	6-4x4¾	Own UC7	U 5	No	Own	BF	R	7.4	52.7	10x3¼x¼	L
51	.....FD80	3–4	3065	174	204	21000	6680	B8.25/20	DB8.25/20	Wau 6ML	6-4x4¾	Own UC7	U 5	Op	Own	2F	R	7.8	55.3	10x3¼x¼	L
52	.....FB80 Spec	3½–4	3010	174	204	21000	6680	B8.25/20	B8.25/20	Wau ML	6-4x4¾	Own UC7	U 5	No	Own	BF	R	7.8	55.3	10x3¼x¼	L
53	.....FC90	4	4105	174	204	22000	7490	B9.00/20	DB9.00/20	Wau 6MK	6-4⅛x4⅜	Own UC7	U 5	Op	Own	CD	R	9.66	61.7	10x3¼x¼	L
54	* FD90	4	3315	174	204	22000	7480	B9.00/20	DB9.00/20	Wau MK	6-4¼x4¾	Own UC7	U 5	No	Own	2F	R	8.0	57.0	10x3¼x¼	L
55	.....FD97S	4–5	4355	192	222	26000	8200	P36x8	DP36x8	Wau 6SRL	6-4⅜x5⅛	Own UC2	U 4	Op	Own	w/2F	R	7.75	51.6	12x3¼x¼	L
56	.....FC100	5–5½	4185	192	222	26000	7750	P36x8	DP36x8	Wau 6MK	6-4¼x4¾	Own UC2	U 4	Op	Own	CD	R	9.3	61.2	12x3¼x¼	L
57	* FD115	5–6	4690	192	222	32000	8750	P40x8	DP40x8	Wau 6SRL	6-4⅜x5⅛	Own UC2	U 4	Op	Own	w/2F	R	8.20	54.6	12x3¼x¼	L
58	.....FC107	5–6	4700	192	222	27000	8200	P36x8	DP36x8	Wau 6SRL	6-4⅜x5⅛	Own UC2	U 4	Op	Own	CD	R	8.20	54.6	12x3¼x¼	L
59	* FD140	7–8	6285	192	222	35000	10050	P40x8	DP42x9	Wau 6-125	6-4⅜x5⅛	Own UC2	U 4	Op	Own	w/2F	R	10.0	66.6	15x3¼x¼	L
60	* FC135	7–8	4800	192	222	35000	8900	P40x8	DP40x8	Wau 8RL	6-4⅜x5⅛	Own UC2	U 4	Op	Own	CD	R	9.3	62.2	15x3¼x¼	L
61	* FC140	8–8½	5245	200	230	36000	9350	P40x8	DP40x8	Wau 6-125	6-4⅜x5⅛	Own UC2	U 4	Op	Own	CD	R	8.3	55.2	15x3¼x¼	L
62	* FC145	8–8½	6180	200	230	37000	10100	P40x8	DP40x8	Wau AB	6-4⅛x5⅜	Own UC8	U 4	Op	Own	CD	R	9.4	58.9	15x3¼x¼	L
63	* FW170, FD170	9½–10½	6980	200	230	35000	10550	P40x8	DP44x10	Wau AB	6-4½x5¾	Own UC8	U 4	Op	Own	w/2F	R	10.0	62.7	15x3¼x¼	L
64	* FC170	9½–10½	6900	200	230	40000	10550	P40x8	DP42x9	Wau RB	6-5x5¾	Own UC8	U 4	Op	Own	CD	R	9.4	58.9	15x3¼x¼	L
65	.....FD195	12–12½	8925	200	230	39000	10750	B10.50/20	DB10.50/20	Cum H Die	6-4⅞x6	BL 734	U 4	Op	Wis 1910W	2F	R	8.88	55.8	15x3¼x¼	L
66	Stewart.....41X	¾	670	124	124	.....	2875	B6.50/18	B6.50/18	Lyc	6-3¼x4½	WG	U 4	No	Cla	S½	H	5.5	35.1	6x2¼x¼	T
67	.....41XS	1	680	134	145	.....	2925	B6.50/18	B6.50/18	Lyc	6-3¼x4½	WG	U 4	No	Cla	S½	H	5.4	35.1	6x2¼x¼	T
68	.....44X	1½	695	134	176	8500	3250	B6.50/20	B6.50/20	Lyc	6-3¼x4½	WG	U 4	No	Cla	SF	H	5.61	35.8	7½x2¾x⅞	T
69	.....42X	1¾	795	145	176	9000	3525	B6.50/.0	B6.50/20	Lyc	6-3¼x4½	WG	U 4	No	Cla	SF	H	5.6	35.8	7½x2¾x⅞	T
70	.....43X	2	905	145	176	10800	4005	B6.50/20	DB6 50/20	Lyc	6-3⅜x4½	WG	U 4	No	Cla	SF	H	6.3	41.	7½x2¾x⅞	T
71	.....45X	2	1295	145	190	12800	4350	B6.50/20	DB6.50/20	Lyc	6-3⅜x4½	WG	U 4	No	Cla	SF	R	6.37	40.	7½x2¾x⅞	T
72	.....29XS	2½	1695	145	220	15000	5190	B7.00/20	DB7.00/20	Lyc	6-3¾x4½	BL	U 5	No	Cla	SF	R	7.16	40.	7½x2¾x⅞	T
73	.....32X	3	1990	165	220	18000	5460	B7.00/20	DB7.00/20	Lyc	6-3¾x4½	BL	U 5	No	Cla	SF	R	7.16	40.	9x2¾x⅞	T
74	58-8	3	2190	170	226	18000	6025	B7.50/20	DB7.50/20	Lyc	8-3¾x4½	Fu	U 5	No	Cla	SF	R	7.1	47.	9x2¾x⅞	T
75	.....18X	3½	2690	165	220	20000	6600	B7.50/20	DB7.50/20	Lyc	6-3½x5	Fu	U 5	No	Tim	WF	R	7.25	47.5	9x2¾x⅞	T
76	48-8	3½	2990	170	241	20000	6750	B8.25/20	DB8.25/20	Lyc	8-3¾x4¾	BL	U 5	No	Cla	WF	R	7.1	47.	9x2¾x⅞	T
77	.....19X	3½	3690	165	235	20000	7110	B9.00/20	DB9.00/20	Lyc	6-3½x5	Fu	U 4	A 3	Tim	WF	R	7.25	48.	9x2¾x⅞	T
78	38-6	3½–5	3990	170	241	23000	7600	B9.00/20	DB9.00/20	Wau	6-4⅝x5½	BL	U 5	A 3	Tim	WF	R	7.25	48.	9x2¾x⅞	T
79	38-8	3½–5	3990	170	241	23000	7600	B9.00/20	DB9.00/20	Lyc	8-3¾x4¾	BL	U 5	A 3	Tim	WF	R	7.25	48.	9x2¾x⅞	T
80	.....31X	5–6	5190	165	235	30000	9340	B9.75/20	DB9.75/20	Wau	6-4⅝x5½	BL	U 4	A 3	Tim	WF	R	8.2	148.	9¼x2¾x⅞	T
81	.....27XS	7–8	6190	165	235	33000	10300	B10.50/24	DB10.50/24	Wau	6-4⅝x5½	BL	U 4	A 3	Tim	WF	R	10.1	148.	9¼x2¾x⅞	T
82	Studebaker..(1)S-2	1½–2	670	130	165	9000	3110	B6.00/20	P32x6	Own	6-3¼x4⅝	WG T9	U 4	No	Cla B373	SF	H	5.66	36.2	7x2¾x⅞	T
83	.....S-4	1¾–2½	785	130	165	10500	3445	B6.00/20	DB6.50/20	Own	6-3¼x4⅝	WG T9	U 4	No	Cla B412	SF	H	6.8	43.5	7x2¾x⅞	T
84	.....S-6	2–3	945	141	165	12000	4095	B6.50/20	DB6.50/20	Own	6-3¼x4⅝	WG T9	U 4	No	Tim 54200	SF	H	6.8	43.5	7x2¾x⅞	T
85	.....S-8	3–4	1395	141	183	16000	4875	B6.50/20	DP32x6	Own	6-3¼x4⅝	WG T9	U 4	A 2	Tim 58200	SF	H	7.8	75.8	8x2¾x¼	T
86	Walter.....FN	2½–3½	4500	120	144	16000	6500	B9.00/20	B9.00/20	Own 6MK	6-4⅛x4¾	Own FN	U 5	No	Own FN	2D	H	7.0	70.0	7x2¾x¼	T
87	(all 4 Wh.Dr.) FM	3½–5	5500	120	144	20000	7500	B9.00/20	DB9.00/20	Own 6SRL	6-4⅝x5½	Own FM	U 5	No	Own FM	2D	H	6.0	60.0	12x2¾x¼	P
88	.....FKD	4–6	6300	118	136	24000	8500	B9.00/24	DB9.00/24	Own 6SRL	6-4⅝x5½	Own FK	U 5	No	Own FK	2D	H	8.5	85.0	11x3¼	P
89	.....FCS	5–7	7200	136	160	27000	9500	B9.75/24	DB9.75/24	Own 6SRK	6-4⅝x5½	Own FK	U 5	No	Own FH	2D	H	8.5	85.0	13x3¼	P
90	.....FBS	5–7	7900	136	160	27000	9500	B9.75/24	DB9.75/24	Own 6RB	6-5x5¾	Own FH	U 5	No	Own FH	2D	H	8.5	85.0	13x3¼	P
91	.....FBRS	7–9	8300	136	160	32000	10500	B10.50/24	DB10.50/24	Own 6RB	6-5x5¾	Own FH	U 5	No	Own FHR	2D	H	8.5	85.0	13x3¼	P
92	Ward La Fr...25R14	2½	2990	176	208	14000	6600	B7.50/20	DB7.50/20	Wau ML	6-4x4¾	BL 324	U 4	No	Tim 54200H	SF	R	Opt	Opt	12x3¼x	B
93	.....25R16	3	2975	176	208	16000	6200	B8.25/20	DB8.25/20	Wau ML	6-4x4¾	BL 324	U 4	No	Tim 56200H	SF	R	Opt	Opt	12x3¼x	B
94	.....25R18	3–4	3275	176	208	18000	6400	B9.00/20	DB9.00/20	Wau MK	6-4¼x4¾	BL 324	U 4	No	Tim 58205H	SF	R	Opt	Opt	12x3¼x	B
95	.....30R19	3–4	3675	194	226	19000	7000	B9.00/20	DB9.00/20	Wau MK	6-4¼x4¾	BL 524	U 4	No	Tim 65200H	WF	R	Opt	Opt	12x3¼x⅞	B
96	320	3–4	3825	194	226	19000	7175	B9.00/20	DB9.00/20	Wau SRL	6-4⅜x5½	BL 534	U 4	No	Tim 58205H	SF	R	Opt	Opt	12x3¼x⅞	B
97	.....30R-20	3–4	4300	194	226	20000	7260	B9.00/20	DB9.00/20	Wau SRL	6-4⅜x5½	BL 534	U 4	No	Tim 65200H	WF	R	Opt	Opt	12x3¼x⅞	B
98	.....30R23	3½–5	4175	194	226	23000	7300	B9.75/20	DB9.75/20	Wau MK	6-4¼x4¾	BL 524	U 4	No	Tim 65720H	WF	R	Opt	Opt	12x3¼x⅞	B
99	.....35R	4–5	4975	194	226	25000	8700	B9.75/20	DB9.75/20	Wau SRL	6-4⅜x5½	BL 534	U 4	No	Tim 65720H	WF	R	Opt	Opt	12x3¼x⅞	B
100	.....75RII	7½	6350	210	231	30000	10500	B10.50/20	DB10.50/20	Wau RB	6-5x5¾	BL 734	U 4	No	Tim 66720H	WF	R	Opt	Opt	14x3¼x¼	T
101	.....55RII	7½	5350	203	224	30000	10000	B10.50/20	DB10.50/20	Wau SRK	6-4⅝x5½	BL 724	U 4	No	Tim 66720H	WF	R	Opt	Opt	14x3¼x¼	T
102	.....55RWS	7½	5750	203	224	30000	10050	B10.50/20	DB10.50/20	Wau SRK	6-4⅝x5½	BL 724	U 4	No	Tim 66720W	WF	R	Opt	Opt	14x3¼x¼	T
103	.....50D	7½–10	5975	159	173	36000	11000	P40x8	DP40x8	Wau SRL	6-4⅜x5½	BL 724	U 4	No	Tim 68702D	WF	R	Opt	Opt	14x3¼x¼	T
104	.....100RW	7½–10	7350	210	231	36000	11500	B10.50/24	DB10.50/24	Wau RB	6-5x5¾	BL 734	U 4	No	Tim 68720W	WF	R	Opt	Opt	14x3¼x¼	T
105	.....75RWS	10	6750	210	231	30000	10600	B10.50/26	DB10.50/20	Wau RB	6-5x5¾	BL 734	U 4	No	Tim 66720W	WF	R	Opt	Opt	14x3¼x¼	T
106	White (12).....60K	1½–1½	1850	112	.....	.....	3905	B7 00/20	B7 00/20	Own 2A	6-3½x4½	Own 3BC	U 3	No	Own 4C	S½	H	5.87	22.2	5x3x	C
107	101	1½–1½	1083	132	.....	.....	3970	B7.00/20	B7.00/20	Own 8A	6-3⅛x4⅝	Own 18BA	U 4	No	Own 19CA	SF	H	5.5	38.1	7x2¾x	C
108	161	1½–1½	1700	138	157	.....	4420	B7.50/20	B7.50/20	Own GRCB	4-4x5¾	Own 8B	U 4	No	Own 4C	S½	H	4.73	19.5	6x2¾x	C
109	702	1½–2	1185	132	156	.....	4225	B7.00/20	DB7.00/20	Own 8A	6-3⅛x4⅝	Own 18BA	U 4	No	Own 19CA	SF	H	5.88	37.6	7x2¾x	C
110	162	1½–2	1900	138	157	.....	4710	B7 00/20	DB7.00/20	Own GRCB	4-4x5¾	Own 8B	U 4	No	Own 4CB	S½	H	4.73	19.5	6x2⅝x⅞	C
111	611	2–2½	2450	148	196	.....	4960	B7.00/20	DB7.00/20	Own 4AB	6-3¾x4½	Own 5B	U 4	No	Own 7C	S½	H	5.67	23.4	6⅝x3⅞x½	C
112	211	2–2½	2300	148	198	.....	5170	B7.00/20	DB7.00/20	Own GRCB	4-4x5¾	Own 8B	U 4	No	Own 7C	S½	H	5.67	23.4	6⅝x3⅞x½	C
113	612	2½–3	2800	148	196	.....	5295	B7.50/20	DB7.50/20	Own 4AB	6-3¾x4½	Own 5B	U 4	No	Own 7CB	S½	H	5.67	23.4	6⅝x3⅞x½	C
114	212	2½–3	2650	148	198	.....	5500	B7.50/20	DB7.50/20	Own GRCB	4-4x5¾	Own 8B	U 4	No	Own 7CB	S½	H	5.67	23.4	6⅝x3⅞x½	C
115	620	2½–3	4350	157	195	.....	7430	B8.25/20	DB8.25/20	Own 7A	6-4⅛x5¼	Own 4B	U 4	No	Own 14C	SF	R	6.38	41.8	7¼x2½x	C
116	.....612K	2½–3	2950	140	180	.....	5445	B7.50/20	DB7.50/20	Own 4AB	6-3¾x4½	Own 5B	U 4	No	Own 7CB	S½	H	5.67	23.4	6⅝x3⅞x½	C
117	.....51A	2½–4	3750	170	190	.....	6438	S36x5°	S36x8°	Own GRB	4-4¼x5¾	OwnGRBA	U 4	No	Own 51A	S½	R	7.14	35.6	8x3x¼	C
118	618	3–4	3600	166	206	.....	6675	B9.00/20	DB9.00/20	Own 4AB	6-3¾x4	Own 11BA	U 5	No	Own 14CB	2F	R	8.15	61.8	8¾x3¼x¼	C
119	621	3–4	4650	157	195	.....	7945	B9.00/20	DB9.00/20	Own 7A	6-4⅛x5¼	Own 4B	U 4	No	Own 10C	SF	R	6.33	41.4	7¼x2¼x	C
120	.....618K	3–4	3750	158	198	.....	6820	B9.00/20	DB9.00/20	Own 4AB	6-3¾x4½	Own 11BA	U 5	No	Own 14CB	2F	R	8.15	61.8	8¾x3¼x¼	C
121	.....620K	3–4	4675	168	215	.....	7825	B9.00/20	DB9.00/20	Own 7A	6-4⅛x5¼	Own 4B	U 4	No	Own 14CB	SF	R	7.32	47.7	8¾x3¼	C
122	630	3–4½	5000	168	215	.....	8500	B9.00/20	DB9.00/20	Own 7A	6-4⅛x5¼	Own 4B	U 4	No	Own 10C	SF	R	6.33	41.4	8¾x3¼	C
123	(Cont.).....640	3–4½	6100	180	214	.....	9510	B9.00/20	DB9.00/20	Own 5AC	6-4⅝x5¾	Own 10B	U 4	No	Own 10C	SF	R	5.18	33.2	8½x3⅛x⅛	C

Line Number	ENGINE DETAILS: Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	Piston Material	MAIN BEARINGS: Number and Diameter	MAIN BEARINGS: Length	Oiling System Type	Governor Make	FUEL SYST.: Carburetors Make	FUEL SYST.: Fuel Feed	ELECTRICAL: Ignition System Make	ELECTRICAL: Generator, Starter Make	Clutch Type and Make	Radiator Make	Universals Make	FRONT AXLE: Make and Model	Steering Gear Make	BRAKES: SERVICE: Make, Location Type Operation	BRAKES: SERVICE: Lining Area	BRAKES: SERVICE: Drum Material	BRAKES: Hand Location, Type	BODY MOUNTING DATA: Cab to Rear of Frame	BODY MOUNTING DATA: Cab to Rear Axle	BODY MOUNTING DATA: Width of Frame	SPRINGS: Front	SPRINGS: Rear	SPRINGS: Auxiliary Type
1	383	4.4	262	43.3	92–2400	L	G	C	7–2⅛	13¼	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 35120H	Ros	L41H	555	a	TD	156	101	34	41½x2½	54x3	½
2	501	4.9	330	48.6	110–2200	L	G	C	7–3	12½	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim264507W	Ros	W4IA	620	a	TD	168	111¼	34	42x3	56x3½	½
3	228	4.4	143	27.3	60–2400	L	G	C	7–2½	10⅝	PC	No	Til	M	AL	AL	D.Jo	Pe	Blo	Tim 30000H	Ros	L4IH	249	D	FD	81¾	51½	34	36x2¼	45x2½	½
4	298	4.7	190	33.7	66–2400	L	G	C	7–2⅝	13¼	PC	No	Zen	M	AL	AL	D.Fu	Yo	Blo	Shu 5429	Ros	L4IH	406	G	TD	84	53½	31	40x2½	54x3	½
5	298	4.7	190	33.7	66–2400	L	G	C	7–2⅝	13¼	PC	No	Zen	M	AL	AL	D.Fu	Yo	Blo	Shu 5532	Ros	L4IH	406	G	TD	88	57½	31	40x2½	54x3	½
6	339	4.7	225	38.4	73–2000	L	G	B	7–2⅝	13¼	PC	No	Zen	M	AL	AL	D.Fu	Yo	Blo	Shu 5532	Ros	L4IH	498	G	TD	108	74	31	40x2½	54x3	½
7	339	4.7	225	38.4	75–2200	L	G	C	7–2½	13¼	PC	No	Zen	M	AL	AL	P.BL	Ow	Spi	Own JSB	Ha	B4IMV	304	G	TX	77½	51	34	42x2½	44x2½	½
8	282	5.3	176	33.7	72–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BL	Ow	Spi	Own JSB	Ha	B4IMV	304	G	TX	103½	77	34	42x2½	44x2½	½
9	282	5.3	176	33.7	72–2500	L	G	C	7–2½	10⅛	PC	Ha	Str	M	RB	LN	D.BL	Mo	Blo	Own LB	Ros	O4XM	142	C	2I	112¼	82	34	44x2½	50x3	N
10	339	4.7	210	38.4	70–2000	L	G	C	7–2⅝	13¼	PC	Ha	Str	M	RB	LN	D.BL	Mo	Blo	Own LC	Ros	O4XM	142	G	2I	112¼	82	34	44x2½	50x3	½
11	383	4.7	265	43.3	91–2000	L	G	C	7–2⅝	13¼	PC	Ha	Zen	M	LN	RB	P.BB	Ch	Blo	Own B3S	Ros	B4IMV	518	G	TX	112¼	82	34	44x2½	50x3	½
12	383	4.7	265	43.3	91–2000	L	G	C	7–2⅝	13¼	PC	Ha	Zen	M	LN	RB	P.BB	Ch	Blo	Own B3D	Ros	B4IMV	518	G	TX	112¼	82	34	44x2½	50x3	½
13	453	4.4	297	48.6	95–2000	L	G	C	7–3	15	PC	Ha	Zen	M	LN	RB	P.BB	Ch	Blo	Own C3S	Ros	B4IMV	518	G	TX	112¼	82	34	44x2½	50x3	½
14	453	4.4	297	48.6	95–2000	L	G	C	7–3	15	PC	Ha	Zen	M	LN	RB	P.BB	Ch	Blo	Own C3D	Ros	B4IMV	518	G	TX	112¼	82	34	44x2½	50x3	½
15	500	4.9	330	48.6	106–2000	L	G	A	7–3	12½	PC	Ha	Zen	M	LN	RB	P.BB	Ch	Blo	Own FC	Ros	B4IMV	666	G	TX	112¼	82	34	44x2½	50x3	½
16	529	4.9	350	51.3	112–2000	L	G	A	7–3	12½	PC	Ha	Zen	M	LN	RB	P.BB	Ch	Blo	Own FB	Ros	B4IMV	666	G	TX	112¼	82	34	44x2½	50x3	½
17	529	4.9	350	51.3	112–2000	L	G	A	7–3	12½	PC	Ha	Zen	M	LN	RB	P.BB	Ch	Blo	Own FD	Ros	B4IMV	666	G	TX	112¼	82	34	44x3	50x4	½
18	677	4.5	440	60.0	142–2000	L	G	A	7–3½	17	PC	Ha	Zen	M	LN	LN	dp.BL	Ch	Blo	Own BG3	Ros	B4IMV	666	G	FD	119	85	36	48x3½	52x4	½
19	855	4.5	555	72.8	180–2000	L	G	A	7–3½	17	PC	Ha	Zen	M	LN	LN	dp.BL	Ch	Blo	Own GD	Ros	B4IMV	666	G	FD	119	85	36	48x3½	52x4	½
20	385	5.0	274	39.2	125–2800	L	C	A	9–2⅜	14⅛	CC	Ha	Str	M	DR	DR	P.Lo	Lo	Cle	Tim 14706	Ha	B4IM	399	D	TD	116¾	62½	34	38x2½	56x3	½
21	298	4.7	190	33.7	70–2600	L	G	C	7–2⅝	13¼	PC	Ha	Zen	M	DR	DR	P.Lo	Lo	Cle	Tim 14706	Ha	B4IM	399	D	TD	113½	59½	34	38x2½	56x3	½
22	361	4.7	230	40.3	77–2400	L	G	A	7–2⅝	13¼	PC	Ha	Zen	M	DR	DR	P.Lo	Lo	Cle	Tim 14706	Ha	B4IM	399	D	CD	143½	89½	34	38x2½	56x3	½
23	361	4.7	230	40.3	77–2400	L	G	A	7–2⅝	13¼	PC	Ha	Zen	M	DR	DR	P.Lo	Lo	Cle	Tim 15735	Ha	B4IA	473	D	CD	119½	65	34	41x2½	56x3	½
24	479	4.7	318	51.3	104–2200	L	G	A	7–3	14	PC	Ha	Zen	M	DR	DR	P.Lo	Lo	Cle	Tim 15733	Ha	B4IA	473	D	CD	118¾	163¾	34	41x2½	56x3	½
25	479	4.6	318	51.3	104–2200	L	G	A	7–3	14	PC	Ha	Zen	M	DR	DR	P.Lo	Lo	Cle	Tim 26050	Ha	B4IA	473	D	CD	168¾	33¼	34	41x2½	56x3	½
26	611	4.5	410	54.1	130–2000	L	G	A	7–3½	16⅝	PC	Ha	Zen	M	DR	DR	P.Lo	Lo	Spi	Tim 26050	Ros	BO4IA	720	D	TX	127	72½	34	41x3	56x4	½
27	230	5.3	152	23.4	68–2800	L	C	A	7–2⅛	12	CC	No	Str	M	DR	DR	P.Ow	Ow	Cle	Own	Ros	L4IH	280	P	TX	. . . .	. . . .	. . . .	38½x2	57x2¼	N
28	205	4.9	136	23.3	51–2500	L	G	B	5–3⅛	8⅛	FP	No	Str	M	DR	DR	P.Ow	Ow	Cle	Own	Ros	L4IH	246	C	2I	102	60	34	40x2	50x2¼	O
29	230	5.3	152	23.4	68–2800	L	C	A	7–2⅛	12	CC	No	Str	M	DR	DR	P.Ow	Ow	Cle	Own	Ros	L4IH	246	C	2I	102	60	34	40x2	50x2½	O
30	268	4.9	175	27.3	75–2800	L	C	A	7–2⅝	12	CC	No	Str	M	DR	DR	P.Lo	Ow	Cle	Own	Ros	L4IH	289	a	2I	105	60	34	40x2¼	52x2½	½
31	268	4.9	175	27.3	75–2800	L	C	A	7–2⅝	12	CC	No	Str	M	DR	DR	P.BL	Mc	Cle	Own	Ros	L4IH	289	a	TX	116	60	34	40x2½	52x2½	½
32	309	4.9	200	31.5	85–2800	L	C	A	7–2⅝	12	CC	No	Str	M	DR	DR	P.BL	Mc	Cle	Own	Ros	L4IH	344	a	FD	124	68	34	44x3	54x3	½
33	358	4.9	230	36.4	110–2800	L	C	A	9–2⅜	12½	FP	Mo	Sch	M	DR	DR	dp.Lo	Mc	Cle	Own	Ros	L4IHV	390	a	FD	143	83	34	44x3	56x3½	½
34	248	5.1	150	27.3	65–2600	L	G	C	7–2⅜	10⅝	FP	No	Str	M	DR	DR	D.BL	Yo	Spi	Tim	Ros	L4IH	380	G	TX	129½	Opt	31½	40x2½	50x3	½
35	248	5.1	150	27.3	65–2600	L	G	C	7–2⅜	10⅝	FP	No	Str	M	DR	DR	D.BL	Yo	Spi	Tim	Ros	L4IH	452	G	TX	129½	Opt	31½	40x2½	50x3	½
36	339	4.7	225	38.4	73–2200	L	G	C	7–2⅝	13¼	PC	Mo	Str	M	AL	AL	D.BB	Yo	Spi	Tim	Ros	L4IHV	452	G	TX	129½	Opt	31½	40x2½	50x3	½
37	339	4.7	225	38.4	73–2200	L	G	C	7–2⅝	13¼	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Tim	Ros	L4IHV	578	G	TX	106	Opt	31½	40x2½	50x3	½
38	339	4.7	225	38.4	73–2200	L	G	C	7–2⅝	13¼	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	658	G	TX	106	Opt	31½	40x2½	50x3	½
39	339	4.7	225	38.4	73–2200	L	G	C	7–2⅝	13¼	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	658	G	TX	106	Opt	31½	40x2¼	50x3	½
40	360	4.7	238	40.3	80–2200	L	G	C	7–2⅝	13¼	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	768	H	TD	106	Opt	31½	40x2½	50x3	½
41	428	4.4	280	45.9	93–2200	L	G	C	7–3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	768	H	TD	106	Opt	31½	40x2½	50x3	½
42	428	4.4	280	45.9	93–2200	L	G	C	7–3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	893	G	TD	106	Opt	31½	40x2¼	50x3	½
43	529	4.9	355	51.2	115–2200	L	G	C	7–3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Own	Ws4IA	847	G	TD	118	Opt	31½	42x3	60x3½	½
44	428	4.4	280	45.9	93–2200	L	G	C	7–3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	893	H	TD	92⅛	Opt	31½	40x2½	50x3	½
45	478	4.4	318	51.2	103–2200	L	G	C	7–3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	893	H	TD	92⅛	Opt	31½	40x2½	50x3	½
46	529	4.4	355	51.2	115–2200	L	G	C	7–3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L4IHV	893	H	TD	92⅛	Opt	31½	40x2½	50x3	½
47	214	5.0	137	28.0	72–3300	L	C	A	4–2⅜	6¾	CC	No	Zen	M	DR	DR	P.Lo	Pe	Spi	Tim 30000H	Ros	L4IH	269	P	TX	96	57	34	38x2¼	50x2½	N
48	214	5.0	137	28.0	72–3300	L	C	A	4–2⅜	6¾	CC	No	Zen	M	DR	DR	P.Lo	Pe	Spi	Tim 30000H	Ros	L4IH	269	P	TX	96	57	34	38x2¼	50x2½	½
49	255	5.0	175	28.0	68–2600	L	G	C	4–2⅜	7⅝	CC	No	Zen	M	DR	DR	P.Lo	Pe	Spi	Tim 31000H	Ros	L4IH	282	P	TX	96	57	34	38x2¼	50x2½	½
50	358	4.4	230	38.4	80–2500	L	G	C	7–2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 31000H	Ros	L4IHV	330	a	CX	144	91	34	42x2½	54x3	½
51	358	4.4	230	38.4	80–2500	L	G	C	7–2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 33000H	Ha	L4IHV	396	a	CX	144	91	34	42x2½	54x3	½
52	358	4.4	230	38.4	80–2500	L	G	C	7–2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 33000H	Ha	L4IHV	392	a	CX	144	91	34	42x2½	54x3	½
53	381	4.4	240	40.8	85–2500	L	G	C	7–2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 33000H	Ha	O21MV	466	a	JX	144	91	34	42x2½	54x3	½
54	381	4.4	240	40.8	85–2500	L	G	C	7–2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 33000H	Ha	L4IHV	397	a	CX	144	91	34	42x2½	54x3	½
55	462	4.5	300	45.9	102–2400	L	G	C	7–3	13½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 35000H	Ros	L4IHV	664	a	CX	172	108	34	48x3	54x3	½
56	381	4.4	240	40.8	85–2500	L	G	C	7–2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 35000H	Ros	O21MV	576	a	JX	172	108	34	48x3	54x3	½
57	462	4.5	300	45.9	102–2400	L	G	C	7–3	13½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 35000H	Ros	L4IHV	664	a	CX	172	108	34	48x3	54x3	½
58	462	4.5	300	45.9	102–2400	L	G	C	7–3	13½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 35000N	Ros	O21MV	576	a	JX	172	108	34	48x3	54x3	½
59	462	4.5	300	45.9	125–2400	L	G	C	7–3	13½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 26450TN	Ros	Ws4IA	690	a	CX	172	108	34	48x3	60x4	½
60	462	4.5	300	45.9	102–2400	L	G	C	7–3	13½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 26450N	Ros	O21MV	500	s	JX	172	108	34	48x3	54x3	½
61	489	4.5	295	43.4	125–2400	L	G	C	4–3½	11⅝	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 26450N	Ros	O21MV	666	s	JX	168	107	34	48x3	54x3	½
62	549	4.5	330	48.6	99–2000	L	G	C	4–3½	11⅝	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 26450N	Ros	O21MV	666	s	JX	168	107	34	48x3	54x3	½
63	549	4.5	330	48.6	99–2000	L	G	C	4–3½	11⅝	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 27050TW	Ros	Ws4IA	690	a	CX	163	107	34	48x3	60x4	½
64	677	4.4	440	60.0	142–2000	L	G	A	4–3½	16⅛	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 27450N	Ros	O21MV	666	s	JX	168	107	34	48x3	54x3	½
65	672	17	420	57.0	125–1800	H	G	C	7–3½	16⅛	CC	Ha	Eng	M	CR	DR	P.BL	Mo	Spi	Tim 27450TW	Ros	Ws4IA	718	a	CX	163	107	34	48x3	60x4	½
66	224	4.8	142	25.3	62–2800	L	G	C	4–2⅜	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	180	a	4X	81	41⅛	32½	38½x2¼	50x2½	N
67	224	4.8	142	25.3	62–2800	L	G	C	4–2⅜	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	180	a	4X	92	51⅜	32½	38½x2¼	50x2½	N
68	224	4.8	142	25.3	62–2800	L	G	C	4–2⅜	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	226	a	TX	92	51⅜	32½	38½x2¼	50x2½	N
69	224	4.8	142	25.3	62–2800	L	G	C	4–2⅜	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	317	a	TX	92	51⅜	32½	38x2½	50x2½	N
70	242	5.	162	27.3	65–2800	L	G	C	4–2⅜	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	317	a	TX	103¼	62⅝	32½	38½x2¼	50x2½	½
71	242	5.	162	27.3	65–2800	L	G	C	4–2⅜	8¼	CC	No	Zen	P	DR	DR	P.BB	Fe	Spi	Spi	Ros	B4IM	349	a	TX	104⅝	58⅝	32½	38½x2¼	50x3	½
72	299	5.0	193	33.8	85–2750	L	G	C	4–2⅝	9⅛	FP	Mo	Str	P	DR	DR	P.BL	Fe	Spi	Cla	Ros	B4IM	524	a	TX	104⅝	58⅝	32½	38x2¼	50x3	½
73	299	5.0	193	33.8	85–2750	L	G	C	4–2⅝	9⅛	FP	Mo	Str	P	DR	DR	P.BL	Fe	Spi	Cla	Ros	B4IM	594	a	TX	127⅛	79⅛	32½	38x2¼	50x3	½
74	322	4.6	224	36.2	90–2750	L	G	C	4–2⅝	10	FP	Mo	Str	P	DR	DR	P.Fu	Fe	Spi	Tim	Ros	B4IM	594	a	TX	129¾	79½	32¼	40x3	56x3	½
75	354	5.2	225	36.5	90–2750	L	G	C	4–2⅝	10	FP	Mo	Str	P	DR	DR	P.Fu	Fe	Spi	Cla	Ros	B4IM	670	a	TF	126¾	79½	32¼	40x3	50x3	½
76	420	5.2	300	44.4	130–2800	L	G	C	5–2¾	12¾	FP	No	Str	P	DR	DR	P.BL	Fe	Spi	Cla	Ros	B4IMV	594	a	TX	128⅛	75⅛	32¼	40x3	56x3	½
77	354	4.6	224	36.2	90–2750	L	G	C	4–2¾	10	FP	Mo	Str	P	DR	DR	D.Fu	Fe	Spi	Eat	Ros	B4IM	670	a	TX	126¾	76½	32¼	40x3	56x3	½
78	462	4.6	300	45.9	100–2000	L	G	C	7–3	12⅞	FP	Mo	Str	P	DR	DR	P.BL	Fe	Spi	Eat	Ros	B4IMV	670	a	TX	128⅛	75⅝	32¼	40x3	56x3	½
79	420	5.2	300	44.4	130–2800	L	G	C	5–2¾	12¾	FP	No	Str	P	DR	DR	P.BL	Fe	Spi	Eat	Ros	B4IMV	670	a	TX	128⅛	75⅝	32¼	40x3	56x3	½
80	516	4.5	330	51.2	110–2000	L	G	C	7–3	12⅞	FP	Wa	Str	P	DR	DR	P.BL	Mo	Spi	Eat	Ros	B4IMV	708	a	TX	128⅛	73⅛	34	40x3	56x4	½
81	516	4.5	330	51.2	110–2000	L	G	C	7–3	12⅞	FP	Wa	Str	P	DR	DR	P.BL	Mo	Spi	Eat	Ros	Ws4IA	902	a	TX	128⅛	73⅛	34	40x3	56x4	½
82	230	4.6	154	25.4	75–3200	L	G	C	4–2½	8⅛	CC	No	Str	M	DR	DR	P.Lo	Mc	Spi	Cla F212	Ros	B4IM	231	a	4I	83¼	48½	33⅛	36x1¾	45x2½	O
83	230	4.6	154	25.4	75–3200	L	G	C	4–2½	8⅛	CC	Ha	Str	M	DR	DR	P.Lo	Mc	Spi	Cla F212	Ros	B4IMV	231	a	4I	83¼	48½	33⅛	36x1¾	45x2½	½
84	230	4.6	154	25.4	75–3200	L	G	C	4–2½	8⅛	CC	Ha	Str	M	DR	DR	dp.Lo	Mc	Cle	Tim 31010	Ros	B4IMV	284	D	4I	97¼	60	34	39x2	56x3	½
85	230	4.6	154	25.4	75–3200	L	G	C	4–2½	8⅛	CC	Ha	Str	M	DR	DR	dp.Lo	Mc	MM	Tim 31020	Ros	B4IMV	420	a	4I	97⅛	60	34⅛	39x2½	56x3	½
86	381	4.5	240	40.0	85–2200	L	G	C	7–2⅝	12⅝	FP	Ow	Zen	P	DR	DR	P.Ow	Ow	Own	Own FN	Ros	O4FXM	450	D	FM	126	84	34	48x3	48x3	½
87	462	4.5	300	46.0	100–1900	L	G	C	7–3	13⅛	FP	Ow	Zen	P	DR	DR	P.Ow	Ow	Own	Own FM	Ros	O4FXM	450	D	FM	126	84	34	48x4	48x4	½
88	462	4.5	300	46.0	100–1900	L	G	C	7–3	13⅛	PC	Ow	Zen	V	Sc	DR	P.Ow	Ow	Own	Own F	Ros	O4FXM	600	D	FX	108	78	36	52x4	52x4	½
89	517	4.5	330	51.0	110–1900	A	C	C	7–3	13⅛	PC	Ow	Zen	V	Sc	DR	P.Ow	Ow	Own	Own F	Ros	O4FXM	600	D	FX	126	96	36	52x4	52x4	½
90	460	4.5	440	60.0	130–1900	L	G	C	7–3	13⅛	PC	Ow	Zen	P	Sc	DR	P.Ow	Ow	Own	Own F	Ros	O4FXM	670	D	FX	126	96	36	52x4	52x4	½
91	677	4.5	440	60.0	130–1900	L	G	C	7–3½	10⅝	PC	Ow	Zen	P	Sc	DR	P.Ow	Ow	Own	Own F	Ros	O4FXM	600	D	FX	126	96	36	52x4	52x5	½
92	358	4.6	228	38.4	77–2200	L	G	C	7–2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IHV	260	a	TD	144	90⅜	33	40x2¼	52x3	½
93	358	4.6	228	38.4	77–2200	L	G	C	7–2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IHV	330	a	TD	144	90⅜	33	40x2¼	52x3	½
94	381	4.6	240	40.8	83–2200	L	G	C	7–2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L4IHV	375	a	TD	144	90⅜	33	40x2¼	52x3	½
95	381	4.6	240	40.8	83–2200	L	G	C	7–2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L4IHV	375	a	TD	168	105⅛	33	40x2½	52x3	½
96	462	4.6	300	45.9	102–2200	L	G	C	7–3	13⅞	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L4IHV	375	a	TD	168	105⅛	33	40x2½	52x3	½
97	462	4.6	300	45.9	102–2200	L	G	C	7–3	13⅞	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L4IHV	460	a	TD	168	105⅛	33	40x2½	52x3	½
98	381	4.6	240	40.8	83–2200	L	G	C	7–2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L4IHV	460	a	TD	168	105⅛	33	40x2½	52x3	½
99	462	4.6	300	45.9	102–2200	L	G	C	7–3	13⅞	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L4IHV	460	a	TD	168	105⅛	33	40x2½	52x3	½
100	677	5.5	465	60.	145–2000	L	G	C	4–3½	11¼	FP	Wa	Zen	M	DR	DR	dp.BL	Pe	Spi	Tim27452H	Ros	L4IHV	560	a	TD	192	117½	33	42x3	56x3½	½
101	517	4.6	330	51.3	110–2200	L	G	C	7–3	13⅞	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35100H	Ros	L4IHV	560	a	TD	192	117½	33	40x3	56x3½	½
102	517	4.6	330	51.3	110–2200	L	G	C	7–3	13⅞	FP	Wa	Zen	M	DR	DR	dp.BL	Pe	Spi	Tim35100TW	Ros	Ws4IA	610	a	TD	192	117½	33	40x3	56x3½	½
103	462	4.6	300	45.9	102–2200	L	G	C	7–3	13⅞	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 16302	Ros	T2IMV	470	a	TD	124	88	37	44x3	56x3½	½
104	677	5.5	465	60.	145–2000	L	G	C	4–3½	11¼	FP	Wa	Zen	M	DR	DR	dp.BL	Pe	Spi	Tim27452TW	Ros	Ws4IA	746	a	TD	192	117½	33	42x3	56x4	½
105	677	5.5	465	60.	145–2000	L	G	C	4–3½	11¼	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim27452TW	Ros	Ws4IA	746	a	TD	192	117½	33	42x3	56x3½	½
106	260	4.8	150	29.4	54–2100	L	C	S	7–2¾	10⅛	FP	No	Zen	V	DR	LN	P.Ow	Ow	Spi	Own 4D	Ha	L4IH	276	a	TX	. . . .	. . . .	34½	39x2¼	50x2½	N
107	240	4.6	150	26.3	*68–2800	L	G	C	4–2½	8⅛	FP	Mo	Str	M	DR	DR	P.Lo	Ow	Spi	Own 4D	Ros	L4IHV	276	a	TX	98	60	34	39x2¼	50x2½	½
108	289	4.3	170	25.6	45–1800	L	G	C	3–2¼	11⅝	FP	Ow	Zen	V	DR	DR	P.Ow	Ow	MM	Own 4D	Ha	L4IH	276	a	TX	112	58¼	34½	39x2¼	50x2½	N
109	240	4.6	150	26.3	*68–2800	L	G	C	4–2½	8⅛	FP	Mo	Str	M	DR	DR	P.Lo	Ow	Spi	Own 4D	Ros	L4IHV	276	a	TX	98	60	34	39x2¼	50x2½	½
110	289	4.3	170	25.6	45–1800	L	G	C	3–2¼	11⅝	FP	Ow	Zen	V	DR	DR	P.Ow	Ow	MM	Own 4D	Ha	L4IH	276	a	TX	112	58¼	34½	39x2½	50x2½	N
111	299	5.5	202	33.7	77–2400	L	C	C	7–2⅝	10⅛	FP	Ha	Zen

Line Number	MAKE AND MODEL	Wheels Driven—6-Wheelers	GENERAL (See Keynote) Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	TIRE SIZE Front	Rear	MAJOR UNITS ENGINE Make and Model	No. of Cylinders Bore and Stroke	TRANSMISSION Make and Model	Location and Forward Speeds	Aux. Location and Speeds	REAR AXLE Make and Model	Gear and Type	Drive and Torque	GEAR RATIOS In High	In Low	FRAME Side Rail Dimensions	Type
1	White	58	3-5	4400	180	195		7797	S36x5°	DS36x5°	Own GRB	4-4¼x5¾	Own 4B	U 4	No	Own 2C	2F	R	7.6	49.7	8¼x3 1/16 x¼	C
2	(Concluded)	58-8S	7½	5300	196	196		9300	B10.50/24	DB10.50/24	Own GRB	4-4¼x5¾	Own 4B	U 4	No	Ov n 6C	2F	R	11.8	77.5	10¼x3x¼	C
3		55	5	4650	174	215		8737	S36x5°	DS40x5	Own GRB	4-4¼x5¾	OwnGRBA	U 4	No	Own 55	2F	R	10.1	66.1	8x18.4 lb.	I
4		631	3½–6	5750	168	215		9000	B9.75/20	DB9.75/20	Own 7A	6-4 1/16 x5¼	Own 4B	U 4	No	Own 2C	2F	R	8.70	56.9	8x3x¼	C
5		631K	7½	6100	215	215		10000	B10.50/20	DB10.50/20	Own 7A	6-4 1/16 x5¼	Own 4B	U 4	No	Own 2C	2F	R	10.15	66.4	8¼x3 1/16 x¼	C
6		641	3½–6	6450	180	214		10010	B9.75/20	DB9.75/20	Own 5AC	6-4½x5¾	Own 10B	U 4	No	Own 2C	2F	R	7.16	44.5	8¼x3 1/16 x¼	C
7		642	4–7½	6750	180	214		10910	B9.75/24	DB9.75/24	Own 5AC	6-4½x5¾	Own 10B	U 4	No	Own 13C	2F	R	10.2	63.4	8¼x3 1/16 x¼	C
8		52	5–7½	5100	174	215		9409	S36x6°	S40x12	Own GRB	4-4¼x5¾	OwnGRBA	U 4	No	Own 52	2F	R	11.7	58.4	8x18.4 lb.	I
9		643	5–9	6950	180	214		11210	B10.50/24	DB10.50/24	Own 5AC	6-4½x5¾	Own 10B	U 4	No	Own 13C	2F	R	10.2	63.4	8¼x3 1/16 x¼	C
10		691	7–9	7250	129	129		12200	B10.50/24	DB10.50/24	Own 5AD	6-4½x5¾	Own 10BB	U 5	No	Own 13CB	2F	R	10.2	63.4	8¼x3¼x½	C
11		630K	3–4½	5200	168	214		9290	B9.00/20	DB9.00/20	Own 7A	6-4 1/16 x5½	Own 4B	U 4	No	Own 10C	SF	R	63.3	41.4	8x3x¼	C
12		640K	3–4½	6300	180	214		10200	B9.00/20	DB9.00/20	Own 5AC	6-4½x5¾	Own 10B	U 4	No	Own 10C	SF	R	5.18	32.2	8¼x3 1/16 x¼	C
13		631K	3½–6	5950	168	215		9250	B9.75/20	DB9.75/20	Own 7A	6-4 1/16 x5¼	Own 4B	U 4	No	Own 2C	2F	R	8.70	56.9	8x3x¼	C
14		641K	3½–6	6650	180	214		10260	B9.75/20	DB9.75/20	Own 5AC	6-4½x5¾	Own 10B	U 4	No	Own 2C	2F	R	7.16	44.5	8¼x3 1/16 x¼	C
15	Willys	77		445	100	100			B5.00/17	B5.00/17	Own 77	4-3¼x4¾	Own 77	U 3	No	Own 77	SI½	H	4.3	12.5	3¾x1¼x⅛	T
	Six-Wheelers																					
16	B'kway 180	SBT 2C	5–7½	4200	212	224	28000	9795	B8.25/20	BD8.25/20	Con 32B	6-4¼x4½	Fu 5A38	U 5	Op	Tim SBT-251	SF	T	6.14	48.5	8¼x3x¾	B
17	Corbitt	20SW6	4R 3–5	5720	Op	Op		9000	B7.50/20	DB7.50/20	Con 20R	6-4½x4¾	BL 615	U 5	No	Tim SW151TW	w/2F	R	Opt	Opt	8x3½x¼	T
18		28SW6	4R 5–7½	6380	Op	Op		10000	P34x7	DP34x7	Con 21R	6-4¾x4¾	BL 607	A 7	No	Tim SW251TW	w/2F	R	Opt	Opt	8x3x⅛	C
19		36SW6	4R 7½–10	8800	Op	Op		11500	P36x8	DP36x8	Con 21R	6-4¾x4¾	BL 607	A 7	No	Tim SW310W	w/2F	R	Opt	Opt	10½x3x⅛	C
20		40SW6	4R 10–15	11000	Op	Op		13000	P38x9	DP38x9	Con 16H	6-4¾x5½	BL 707	A 7	No	Tim SW420W	w/2F	R	Opt	Opt	10½x3x⅛	C
21	Day Elder	150	3	1645	159	189	15000	5400	B6.50/20	DB6.50/20	Her JXB	6-3¾x4¼	WG T9	U 4	No	Tim SBT75	BF	H	5.46	36.2	7x3¾x¼	C
22		285	4R 8	5295	205	234	28500	12000	B8.25/20	DB8.25/20	Her RXC	6-4¾x5¼	BL 534	U 4	No	Ti SWD210H	WF	R	7.50	47.6	10x3¾x⅛	C
23		345	4R 10	6395	205	234	34500	12500	B9.00/20	DB9.00/20	Her RXC	6-4¾x5¼	BL 534	U 4	No	TiSWD310W	WF	R	8.50	54.0	10x3¾x⅛	C
24		402	4R 12	7495	205	234	40200	14200	B9.75/20	DB9.75/20	Her RXC	6-4¾x5¼	BL 725	U 5	No	TiSWD410W	WF	R	9.0	63.6	10x3¾x⅛	C
25	Diamond T	801	4R 4	4140	189	219	21000	8500	P36x8	P36x8	Her YXC	6-4¾x4¾	BL 55	A 7	No	Own	WF	H	Opt	Opt	6½x3x¼	P
26		1201	4R 6	5600	180	210	28000	11000	P34x7	DP34x7	Her RXB	6-4¾x5¼	BL 60	A 7	No	Tim SW200	WF	R	Opt	Opt	9x3½x¼	P
27		1602	4R 8	6400	175	210	36000	11700	P36x8	DP36x8	Her RXC	6-4¾x5¼	BL 60	A 7	No	Tim SW310	WF	R	Opt	Opt	9x3½x¼	P
28		1603	4R 8	7500	184	224	36000	12500	P36x8	DP36x8	Wau 6RB	6-6x5¾	BL 70	A 7	No	Tim SW310	WF	R	Opt	Opt	9x3½x¼	P
29	Dodge	GS50	2C 1½–4	935	153	153	12000	3650	B6.00/20	P32x6	Own	6-3¼x4¼	Own	U 4	No	Own	SF	H	5.85	36.1	7 1/16 x3½x⅜	C
30	Bros.	FS75	2C 3–9	3995	221	221	30000	8350	B9.00/20	DB9.00/20	Own	6-3¾x5	Own	U 4	No	Own	SF	H	7.13	48.2	10x3¼x⅛	C
31	Fageol	8-46	4R 8	7800	195	220	40500	13200	B9.75/20	DB9.75/20	Wau 6–125	6-4½x5½	BL 714	U 4	A 3	Tim Own	WF	R	5.19	127.	8x3¼x⅛	C
32		10-46	4R 10	8800	232	232	56000	14700	B9.75/20	DB9.75/20	Wau RB	6-5x5¾	BL 714	U 4	A 3	Tim Own	WF	R	5.19	127.	8¼x4x⅛	C
33	Federal	E2SWL	2R 3	1150	145	187	13750	3975	B6.00/20	P32x6	Con 17E	6-3¾x4	WG T9	U 4	No	Cla B374	SF	H	6.38	40.8	6x2¾x¼	C
34		E2DL	4R 3	1450	145	187	14000	4310	B6.00/20	P32x6	Con 17E	6-3¾x4	WG T9	U 4	No	Cla B412	BF	H	6.38	40.8	6x2¾x¼	C
35		16	2R 3	1320	172	198	15000	4300	B6.00/20	P32x6	Her JXB	6-3¾x4¼	WG T9	U 4	No	Cla B412	SF	H	6.38	40.8	8¼x2 1/16 x⅜	T
36		17	4R 3	1570	172	198	15000	4700	B6.00/20	P32x6	Her JXB	6-3¾x4¼	WG T9	U 4	No	Cla B412	SF	H	6.38	40.8	8¼x2 1/16 x⅜	T
37		36	2R 4½	2795	192	218	24000	7700	B7.50/20	DB7.50/20	Wau 6MK	6-4½x4¾	Cla R908	U 5	No	Cla B642	SF	H	7.16	58.6	10x3½x¼	N
38		37	4R 4½	3175	192	218	24000	8100	B7.50/20	DB7.50/20	Wau 6MK	6-4½x4¾	Cla R908	U 5	No	Cla B642	SF	H	7.16	58.6	10x3½x¼	N
39		T10SW	2R 7	3895	188	224	28000	9600	P34x7	DP34x7	Con 20R	6-4½x4¾	Cla B710	A 5	No	Tim 58200H	BF	H	7.8	50. 6	7½x3½x¼	P
40	FWD	MX6	6 10–15	12255	200	Op	48000	17800	B13.50/20	DB13.50/20	Wau RB	6-5x5¾	BL 714	U 4	A 2	Wis 131TW	2F	H	8.36	173.	10x3x⅜	
41		X6	4F 6–10	7385	170	Op	36000	12000	B9.75/20	DB9.75/20	Wau SRK	6-4½x5½	Own U	A 5	Op	Own X	BF	H	7.35	73	7x3x⅜	C
42	(6) Gen. Mo.	T95	4R 9–11	7695	180	224	40000	13250	P34x7	DP34x7	Own 525	6-4½x5½	Own	U 4	Op	Own	WF	R	8.50	53.3	9¼x4x½	L
43		T130	4R 12–15	9490	189	224	50000	14545	B9.75/20	DB9.75/20	Own 616	6-4½x5½	Own	U 4	A 3	Own	WF	R	9.50	119.	9¼x4x⅝	L
44	Hendrick'n.	21D	4R 2–6	3500	Op	Op	21000	6800	B7.50/20	DB7.50/20	Wau 6-90	6-3¾x4¾	Fu 5A38	U 5	No	Own 985	SF	H	Opt	Opt	8x3x⅛	C
45		25D	4R 3–8	3900	Op	Op	25000	8000	B8.25/20	DB8.25/20	Wau 6-110	6-4x4¾	Fu 5A38	U 5	No	Own 985	SF	H	Opt	Opt	8x3x⅛	C
46		32D	4R 4–9	4900	Op	Op	32000	10500	B9.00/20	DB9.00/20	Wau 6-110	6-4x4¾	Fu 5A38	U 5	No	Own 2513X	SF	R	Opt	Opt	8x3x⅛	P
47		38D	4R 5–12	6600	Op	Op	38000	11200	B9.75/20	DB9.75/20	Wau 6-125	6-4¾x5½	Fu 5A53	U 5	No	Own 2513X	SF	R	Opt	Opt	8x3x⅛	P
48		40D	4R 12	8000	Op	Op	40000	13200	B9.75/20	DB9.75/20	Wau 6-125	6-4¾x5½	Fu 5A53	U 5	No	Eat 44000	2F	R	Opt	Opt	8x3x⅛	P
49		44D	4R 12	9000	Op	Op	44000	14000	B9.75/20	DB9.75/20	Wau 6RB	6-5x5¾	BL 70-7	A 7	No	Eat 44000	2F	R	Opt	Opt	8x3x⅛	P
50	Hug	99	4R 10	10300	148	148	58500	15100	S36x8	S40x16	Bud GF6	6-4¾x6	BL 714-703	U 4	A 3	Wis SD420AW	2F	R	10.3	139.	9x4 1/16 x⅜	H
51	Ind.	95SBT-151	2C 3	1875	168	186	20000	6125	P32x6	DP32x6	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim SBT151	SF	T	7.4	45.8	7 1/16 x2¾x⅜	T
52		95SW	75 4R 3	1900	168	186	20000	5800	P32x6	DP32x6	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim SW75	WF	T	7.4	45.8	7 1/16 x2¾x⅜	T
53		17ASW	151 4R 3	3450	188	212	24000	7500	B8.25/20	DB8.25/20	Her WXC	6-4x4½	BL 3341	U 4	Op	Tim SW151	WF	T	6.4	403.	8¼x3x⅛	T
54		17SBT	251 2C 4	3500	188	224	28000	8850	P34x7	DP34x7	Her YXC	6-4¾x4¾	BL 524	U 4	Op	Tim SBT251	SF	T	6.1	37. 8	8¼x3x⅛	TL
55		17SW	251 4R 4	3900	188	224	28 00	9500	P34x7	DP34x7	Her YXC	6-4¾x4¾	BL 524	U 4	Op	Tim SW251	WF	T	6.2	38.1	8¼x3x⅛	TL
56		16X6	6	5650	170	...	20000	8000	B7.00/20	DB7.00/20	Her RXB	6-4½x5¼	BL	U 4	U 2	Wis	2F	H	4.66		8x3¼	C
57		18X6	6 3½	6650	170	...	28000	10500	B8.25/20	DB8.25/20	Her RXC	6-4½x5¼	BL	U 4	A 2	Wis	2F	H	7.83	110.	8½x3x⅛	
58		20X6	6 4½	8950	188	...	36000	14000	B9.00/20	DB9.00/20	Her HXC	6-5¼x6	BL	U 4	A 2	Wis	2F	R	8.95	84.0	9x3x¼	C
59		22X6	6 5	12100	200	...	40000	16000	B9.75/20	DB9.75/20	Her HXD	6-5½x6	BL	U 4	A 2	Wis	2F	R	9.11	86.0	8¼x3 1/16 x3½	C
60	Ken.	89SBT	2C 7	2380	188	224	25500	7350	P32x6	DP32x6	Her JXC	6-3¾x4¼	BL 234	U 4	Op	Tim SBT151	SF	A	7.4	45.5	8x3x¼	TL
61		127SBT	2C 8	3450	188	224	26000	8000	B8.25/20	DB8.25/20	Her WXC2	6-4½x4½	BL 334	U 4	Op	Tim SBT151	SF	A	7.4	45.5	8x3x¼	TL
62		146SBT	2C 9	4250	188	224	33000	9000	B9.00/20	DB9.00/20	Bud K393	6-4 1/16 x4¾	BL 334	U 4	Op	Tim SBT251	SF	A	7.8	48.	8x3x¼	TL
63		186SDT	2C 10	6450	205	235	38000	10500	B9.00/20	DB9.00/20	Her YXC2	6-4½x4¾	BL 1554	U 4	A 3	Tim Sdt310w	2F	H	7.33	104.	9x3x¼	T
64		241SDT	2C 10	6850	205	235	40500	11000	B9.00/20	DB9.00/20	Her RXB	6-4½x5¼	BL 714	U 4	A 3	Tim Sdt310w	2F	H	7.33	85.5	9x3x¼	T
65		346A	4R 10	8800	210	240	40500	13000	B9.75/20	DB9.75/20	HaS 160	6-4¾x5½	BL 714	U 4	A 3	Tim SW310w	WF	H	7.25	84.5	8x3x⅛	C
66		346B	4R 10	8550	210	240	40500	13000	B9.75/20	DB9.75/20	Bud GF-6	6-4¾x6	BL 714	U 4	A 3	Tim SW310w	WF	H	7.25	98.4	8x3x⅛	C
67		346C	4R 10	9500	210	240	40500	14000	B9.75/20	DB9.75/20	HaS 175	6-5x6	BL 714	U 4	A 3	Tim SW310w	WF	H	7.25	98.4	8x3x⅛	C
68		386C	4R 10	10200	210	240	50100	14500	B9.75/20	DB9.75/20	HaS 175	6-5x6	BL 714	U 4	A 3	Tim SW410w	WF	H	7.60	103.	8x3x⅛	C
69	La Fran-R.	Q6	4R 9–12	11650	216	260	40000	14900	B10.50/20	DB10.50/20	Own 312B	12-4x5	BL 714	U 4	No	Own SWD410	WF			Opt	Opt	12x3½x¼	L
70	Le Moon (9)	701	4R 5–6	4475	187	199	25500	8500	B8.25/20	DB8.25/20	Lyc AEC	8-3¾x4¾	Fu VUOG	U 5	No	Ti 63703-97H	WF	R	6.20	43. 8	7x4x¼	B
71		801	4R 6–7	5100	187	199	32500	9720	B9.00/20	DB9.00/20	Lyc AEC	8-3¾x4¾	Fu VUOG	U 5	No	Ti 65703-97H	WF	H	6.75	47.7	7x4x¼	B
72		802	4R 6–7	5350	187	199	32500	9800	B9.00/20	DB9.00/20	Wau 6SRL	6-4½x5½	Fu VUOG	U 5	No	T65703-97tW	WF	H	6.75	47.1	7x4x¼	B
73		900	4R 7–8	6775	191	203	36000	12000	B9.75/20	DB9.75/20	Wau 6SRL	6-4½x5½	BL 607	A 7	No	TimSW310W	WF	H	9.25	86.9	9x4x⅛	B
74		1000	4R 8–10	7950	196	208	40000	12600	B9.75/24	DB9.75/24	Wau 6AB	6-4½x5¾	BL 714	U 4	3	TimSW310W	WF	H	9.25	128.	9x4x⅛	B
75		1200	4R 10–12	8500	196	208	40000	14000	B9.75/24	DB9.75/24	Wau 6RB	6-5x5¾	BL 714	U 4	3	TimSW410W	WF	H	9.25	128.	9x4x⅛	B
76		1200D	4R 10–12	9750	196	208	40000	14000	B9.75/24	DB9.75/24	Cum.Die.H6	6-4 1/16 x6	BL 735	U 5	No	TimSW410W	WF	H	7.6	47. 6	9x4x⅛	B
77	Mack	BX	4R 8–15	7950	178	207		12000	B8.25/22	DB8.25/22	Own CF	6-4¼x5½	Own BX	U 4	No	Own BX6	2F	A	6.53	46.0	9½x3x¼	C
78		BQ	4R 8–15	9350	224	248		15000	B9.75/22	DB9.75/22	Own BQ	6-4¾x5¾	Own AC	A 4	No	Own BX6	2F	A	6.54	41.9	10x3x¼	C
79		AC	4R 8–15	8500	217	257		14550	P40x8	DP40x8	Own BQ	6-4¾x5¾	Own AC	J 4	No	Own AC	CD	R	9.26	59.4	8½x3x⅛	C
80		AK	4R 8–15	9000	217	257		15900	B9.75/22	DB9.75/22	Own BQ	6-4¾x5¾	Own AC	A 4	No	Own AK6	2F	A	7.46	47.8	8½x3x⅛	C
81		AP	4R 8–15	10500	217	257		14850	P40x8	DP40x8	Own AP	6-5x6	Own AC	J 4	No	Own AC	CD	R	9.26	59.4	8x3x⅛	C
82		AP	4R 8–15	11000	217	257		16400	B9.75/22	DB9.75/22	Own AP	6-5x6	Own AC	A 4	No	Own AK6	2F	A	7.46	47.8	8½x3x⅛	C
83	Mar.-Her.	TS310A-6	10	10000	193	229		14070	B9.75/22	DB9.75/22	Her RXC	6-4½x5½	Fu 5A530	U 5	A 2	Own-Wis	2F	R	9.11	163.	8¼x3x⅛	P
84		(13) TH315	6 12	12500	198	234		15420	B9.75/22	DB9.75/22	Her HXB	6-5¼x6	BL 724	U 4	A 3	Own-Wis	2F	R	9.11	163.	8¼x3x⅛	P
85		(13) TH320	6 15	15000	225	255		18900	B10.50/24	DB10.50/24	Her HXC	6-5¼x6	BL 724	U 4	A 3	Own-Wis	2F	R	9.11	188.	10x3x⅛	P
86		(13) TH330	6 20	17500	225	255		20100	B12.75/20	DB12.75/20	Her-HXD	6-5½x6	BL 734	U 4	A 3	Own-Wis	2F	R	9.11	167.	10x3x⅛	P
87	Moreland.	RA15	2C 3	1550	153	Op	15000	5300	B6.50/20	DB6.50/20	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim SBT75	SF	R	5.66	35.0	7 1/16 x2¾x¼	T
88		RA20	2C 5	1981	149	Op	20000	6100	P32x6	DP32x6	Her JXC	6-3¾x4¼	BL 224	U 4	No	Tim SBT151	SF	R	6.17	38.2	7 1/16 x2¾x¼	T
89		BD21M	4C 5	3534	184	Op	21000	8300	B7.50/20	DB7.50/20	Her WXC3	6-4¼x4½	BL 334	U 4	No	Tim 64800	WF	R	6.40	39.6	9 1/16 x3½x¼	T
90		ED25M	4C 7	4067	184	Op	25000	8900	B8.25/20	DB8.25/20	Her WXC3	6-4¼x4	BL 334	U 4	No	Tim 65000	W	R	7.50	46.0	9 1/16 x3½x¼	T
91		HD34M	4C 10 6	5869	220	Op	34000	11000	B0.00/20	DB9.00/20	Her RXB	6-4½x5¼	BL 524	U 4	No	Tim 65720	W	R	8.50	62.0	9 1/16 x3½x¼	T
92		TD34	4C 10	7607	221	Op	34000	13250	B9.75/20	DB9.75/20	Con 16H	6-4¾x5¾	BL 724	U 4	No	Tim 68720W	W	R	8.75	62.0	11x3 1/16 x⅛	T
93	Sterling	FBT152	2R 8½	4580	174	204	30400	9500	B9.00/20	DB9.00/20	Wau 6-110	6-4x4¾	Own UC7	U 5	No	Own	BF	R	7.8	55.5	10x3¼x¼	L
94		FDT152	2R 8½	4705	174	204	30400	9700	B9.00/20	DB9.00/20	Wau 6-110	6-4x4¾	Own UC7	U 5	No	Own	2F	R	9.0	52.7	10x3¼x¼	L
95		FDS180	4R 8–10	8605	158	Op	36000	12850	P40x8	DP40x8	Wau AB	6-4½x5¾	Own UC8	U 4	A 3	Tim 310	2F	R	9.1	113.	15x3¼x¼	L
96		FDS200	4R 10–12	9130	159	Op	40000	13550	P40x8	DP40x8	Wau RB	6-5x5¾	Own UC8	U 4	A 3	Tim 410	2F	R	9.1	113.	15x3¼x¼	L
97	*	FCS210	4R 15–18	10175	Op	Op	42000	14750	P40x8	DP40x8	Wau RB	6-5x5¾	Own UC8	U 4	A 3	Own	CD	R	9.5	59. 6	15x3¼x¼	L
98		FDT200	2R 12–12½	7670	178	208	40000	12050	P40x8	DP40x8	Wau 6-125	6-4½x5½	Own UC	U 4	Op	Own	2F	R	8.85	58.8	12x3¼x¼	L
99		FDT250	2R 16–16½	8855	186	216	50000	13550	P42x9	DP42x9	Wau RB	6-5x5¾	Own UC8	U 4	Op	Own	2F	R	8.85	55.5	15x3¼x¼	L
100		FCT180	2R 10–10½	7265	178	208	36000	11200	P36x8	DP36x8	Wau SRL	6-4¾x5½	Own UC	U 4	Op	Own	CD	R	8.2	54.5	12x3¼x¼	L
101		FCT200	2R 12–12½	7685	178	208	40000	11800	P40x8	DP40x8	Wau 6-125	6-4¾x5½	Own UC	U 4	Op	Own	CD	R	9.3	61.8	12x3¼x¼	L
102	Ward	440TC	15	11000	240	246	44000	14000	B9.75/22	DB9.75/22	Cu. Die. HA	6-4 1/16 x6	BL 735	A 5	No	Tim SDT420w	WF	R	6.42	40.4	14x3¼x¼	T
103	LaFr.	440TR	15	9350	240	246	44000	13700	B9.75/22	DB9.75/22	Wau RB	6-5x5¾	BL 735	A 5	No	Tim SDT420w	WF	R	6.42	40.4	14x3¼x¼	T
104		340TM	7½	4700	204	230	28000	9200	B8.25/20	DB8.25/20	Wau MK	6-4¼x4¾	BL 5352	U 5	No	Tim SBT251H	SF	T	Opt	Opt	12x3¼x¼	T
105		400T5	12	7100	203	241	40000	13000	B9.75/20	DB9.75/20	Wau 6-125	6-4¾x5½	BL 5352	U 5	No	Tim SWT320tw	WF	R	8.5	65.5	14x3¼x¼	T
106	Wht.	630SW200	4R 5–6	* * *	193	205		10000	B8.25/20	DB8.25/20	Own A7	6-4¼x5¼	Own 4B	U 4	No	Tim SW200H	WF	R	6.75	44.2	8¼x3 1/16 x⅛	C
107		642SW320	4R 7–9	* * *	198	210		12670	B9.00/20	DB9.00/20	Own 1AB	6-4¼x5¾	Own 7B	U 4	No	TimSW310W	WF	R	8.5	55.6	8¼x3 1/16 x⅛	C
108		643SW420	4R 9–11	* * *	198	215		14400	P40x8	DP40x8	Own 1AB	6-4¼x5¾	Own 7B	U 4	No	TimSW410W	WF	R	10.2	69.1	8¼x3 1/16 x½	C

Pinching the Pennies

(CONTINUED FROM PAGE 34)

tion of waste, will usually be found possible and productive of cash results.

● *Executive Direction*

The administration division of fleet operation includes, of course, the office operation and its personnel. The quick and easy way, of course, is to reduce this personnel, but it is not the desirable method, in view of existing conditions.

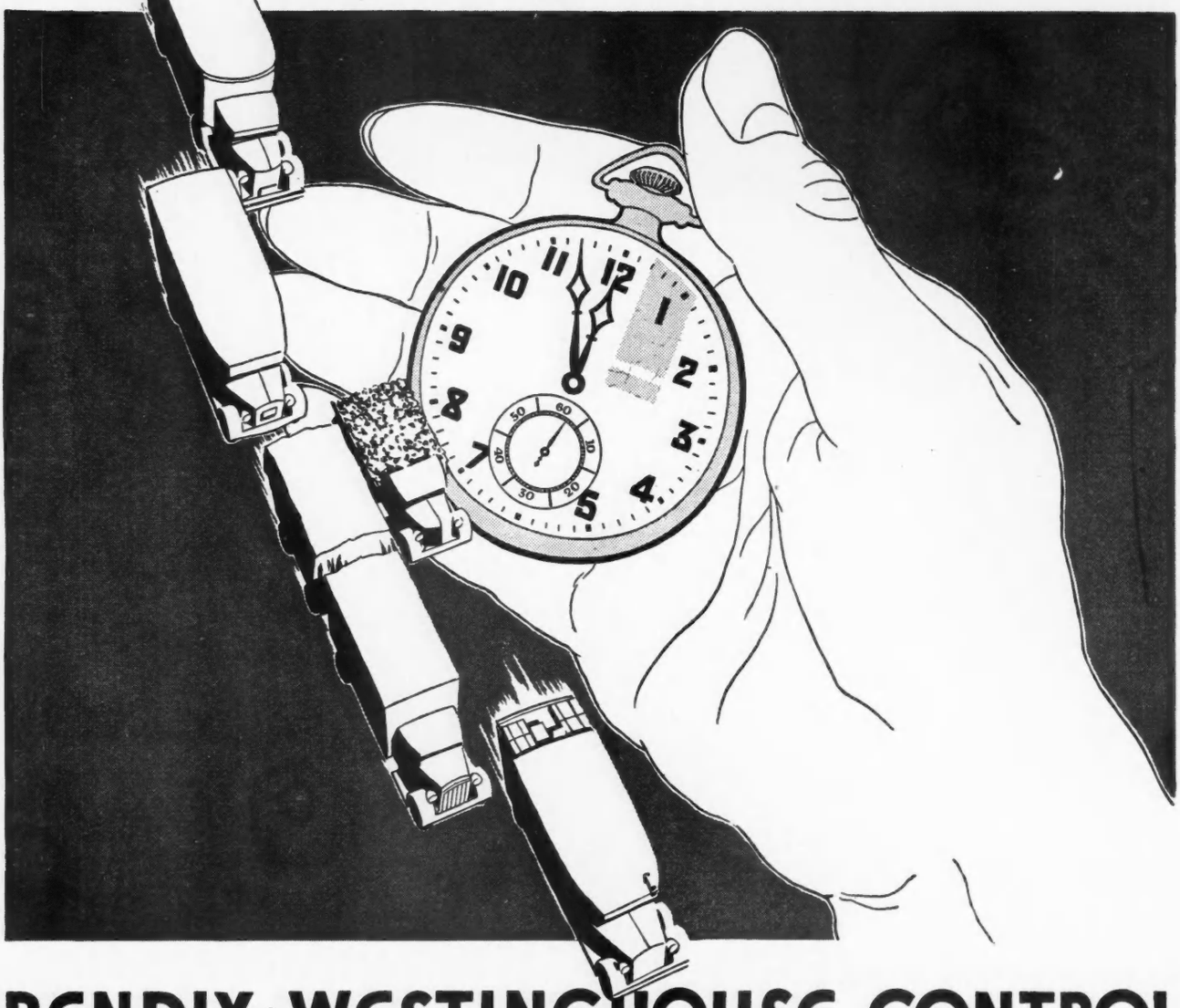
The record keeping system, however, can usually yield up its share of ex-

Line Number	ENGINE DETAILS: Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	Piston Material	MAIN BEARINGS: Number and Diameter	MAIN BEARINGS: Length	Oiling System Type	Governor Make	FUEL SYST.: Carburetors Make	FUEL SYST.: Fuel Feed	ELECTRICAL: Ignition System Make	ELECTRICAL: Generator, Starter Make	Clutch Type and Make	Radiator Make	Universals Make	FRONT AXLE: Make and Model	Steering Gear Make	BRAKES: SERVICE: Make, Location, Operation	BRAKES: SERVICE: Lining Area	BRAKES: SERVICE: Drum Material	BRAKES: Hand Location, Type	BODY MOUNTING DATA: Cab to Rear of Frame	BODY MOUNTING DATA: Cab to Rear Axle	BODY MOUNTING DATA: Width of Frame	SPRINGS: Front	SPRINGS: Rear	Auxiliary Type
1	326	4.3	207	28.9	54–1600	L	G	C	3–2¼	11⅜	FP	Ow	Zen	V	Ei	ns	P.Ow	Ow	Spi	Own 2D	Own	OPXM	224	a	2I	148½	93½	34½	40½x3	56x3½	¼
2	326	4.3	207	28.9	54–1800	L	G	C	3–2¼	11⅜	FP	Ow	Zen	V	LN	LN	P.Ow	Ow	Spi	Own 9D	Ros	OPXM	224	a	2I	176	120	38½	42x3	57x5	N
3	326	4.3	207	28.9	54–1600	L	G	C	3–2¼	11⅜	FP	Ow	Zen	V	Ei	ns	P.Ow	Ow	Spi	Own 55	Own	OPXM	224	a	2I	167⅝	107½	42½	44x3	51¼x5	N
4	434	4.9	275	42.08	105–2100	H	C	S	7–2¾	13½	FP	Ow	Zen	M	DR	DR	P.Ow	Ow	Spi	Own 9D	Ros	O4IA	595	a	CI	144⅞	84⅞	34⅛	42x3	56x3½	½
5	434	4.9	275	42.08	105–2100	H	C	S	7–2¾	13½	FP	Ow	Zen	M	DR	DR	P.Ow	Ow	Spi	Own 9D	Ros	O4IA	595	a	2I	215	131½	34⅛	42x3	56x3½	½
6	580	4.6	385	51.3	130–2100	H	C	S	7–3	15⅜	FP	Ow	Zen	E	LN	LN	P.Ow	Ow	Spi	Own 9D	Ros	O4IA	595	a	CI	156¾	91¾	34⅛	42x3	56x3½	½
7	580	4.6	385	51.3	130–2100	H	C	S	7–3	15⅜	FP	Ow	Zen	E	LN	LN	P.Ow	Ow	Spi	Own 9D	Ros	O4IA	595	a	CI	156¾	91¾	34⅛	42x3	56x3½	½
8	326	4.3	207	28.9	54–1800	L	G	C	3–2¼	11⅜	FP	Ow	Zen	V	Ei	ns	P.Ow	Ow	Spi	Own 9D	Ros	O4IA	623	a	CI	156¾	91¾	34⅛	42x3	51⅛x5	N
9	580	4.6	385	51.3	130–2100	H	C	S	7–3	15⅜	FP	Ow	Zen	E	LN	LN	P.Ow	Ow	Spi	Own 52	Own	OPXM	224	a	2I	167⅝	107⅛	42½	44x3	51⅛x5	N
10	580	4.6	385	51.3	130–2300	H	C	S	7–3	15⅜	FP	Ow	Zen	M	DR	LN	P.Ow	Ow	Spi	Own 9D	Ros	O4IA	623	a	CI	156¾	91¾	34⅛	42x3	51⅛x5	N
11	434	4.9	275	42.0	105–2100	H	C	S	7–2¾	13½	FP	Ow	Zen	M	DR	DR	P.Ow	Ow	Spi	Own 5D	Ros	O4IA	623	a	TD	100	65	36	44x3	55½x5	N
12	580	4.6	385	51.3	130–2100	H	C	S	7–3	15⅜	FP	Ow	Zen	E	LN	LN	P.Ow	Ow	Spi	Own 9D	Ros	O4IA	553	a	CI	160	100	34⅛	42x3	56x3½	½
13	434	4.9	275	42.0	105–2100	H	C	S	7–2¾	13½	FP	Ow	Zen	M	DR	DR	P.Ow	Ow	Spi	Own 9D	Ros	O4IA	595	a	CI	160	100	34⅛	42x3	56x3½	½
14	580	4.6	385	51.3	130–2100	H	C	S	7–3	15⅜	FP	Ow	Zen	E	LN	LN	P.Ow	Ow	Spi	Own 9D	Ros	O4IA	595	a	CI	172	107	34⅛	42x3	56x3½	½
15	134	5.1	100	15.6	48–3200	L	C	C	3–2	5⅛	CC	No	Til	M	AL	AL	P.Ow	Fe	.....	Own 77	....	B4IM	134	P	4I	.....	.....	.....	30x1¼	46x1¼	N
16	360	4.5	240	40.8	90–2500	L	G	N	7–2⅝	13	CC	KP	Zen	M	AL	AL	P.Li	GO	Spi	Shu 15692B12	Ros	L6IHV	708	G	CD	210	125	34¼	40x2½	52x4	N
17	381	4.6	276	40.0	106–2600	H	C	C	7–2¾	13	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000tw	Ros	We6IA	459	a	TD	Opt	Opt	34	40x2¼	56x4	½
18	428	4.6	276	45.9	118–2600	H	C	C	7–2¾	13	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000tw	Ros	We6IA	525	a	TD	Opt	Opt	34	40x3	56x4	½
19	428	4.6	276	45.9	118–2600	H	C	C	7–2¾	13	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 27450W	Ros	We6IA	536	a	TD	Opt	Opt	34	46x3	66x4	½
20	611	4.5	384	54.1	127–2300	L	G	A	7–3	13⅜	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 27450W	Ros	We6IA	720	a	TD	Opt	Opt	34	46x3	66x4	½
21	263	4.4	164	31.5	68–2800	L	G	C	7–2½	10⅜	PC	No	Zen	M	DR	DR	P.BB	GO	Spi	Tim 30000H	Ros	L6IH	...	a	XF	180	111	33½	40x2¼	46x3	½
22	529	4.4	350	51.3	114–2200	L	G	A	7–3	12½	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 26450H	Ros	L6IH	842	a	DF	213	120	33	46x3	64x4	½
23	529	4.4	350	51.3	114–2200	L	G	A	7–3	12½	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 26450W	Ros	We6IA	1014	a	DF	213	120	33	46x3	64x5	½
24	529	4.4	350	51.3	114–2200	L	G	A	7–3	12½	PC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 26450W	Ros	We6IA	1014	a	DF	213	120	33	45x3	64x5	½
25	428	4.5	280	45.9	93–2200	L	G	C	7–3	14	PC	Ha	Zen	M	AL	AL	D.Co	GO	SpP	Shu 5582B	Ros	L6IHV	571	a	TD	162	103	34	45¼x2½	58x4	N
26	501	4.4	330	48.6	111–2200	L	G	C	7–3	12½	PC	Ha	Zen	M	AL	AL	D.Co	GO	SpB	Shu 678	Ros	We4IA	238	a	TD	162	100¼	37	46x3	50x4	N
27	529	4.4	350	51.3	114–2200	L	G	C	7–3	12½	PC	Ha	Zen	M	AL	AL	D.Co	GO	SpB	Shu 678	Ros	We4IA	238	a	TD	138¾	94¾	37	46x3	50x4	N
28	707	...	455	60.0	148–2000	L	G	C	7–3½	17	PC	Ha	Zen	M	LN	LN	D.BL	GO	SpB	Shu 678	Ros	We4IA	238	a	TD	141	93	37	46x3	50x4	N
29	211	5.3	130	25.3	60–3100	L	C	S	4–2¼	6¼	CC	No	Car	M	DR	DR	P.BB	Fe	Own	Own	Own	O6IHV	273	a	TX	117½	50½	34½	36x1¾	43¾x3	N
30	309	4.7	198	21.0	96–3000	L	G	S	7–2⅝	11¾	CC	Ha	Det	M	DR	DR	P.BB	Fe	Own	Own	Jac	O6IHV	657	a	CD	218⅛	114⅛	34⅜	42x3	56¼x4	N
31	462	5.2	324	46.0	125–2600	F	G	A	7–3	13⅞	FP	Wa	Zen	M	My	DR	P.BL	Pe	Spi	Tim 36020N	Ros	We4rIA	504	H	FD	168	114⅝	33½	41x3	46x3½	N
32	677	4.4	460	60.	125–1800	L	G	A	4–3½	11⅝	CC	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 27050	Ros	We4rIA	630	H	FD	214¼	144⅞	33½	42½x3	49½x4	N
33	215	5.1	137	27.3	60–2600	L	C	A	7–2¼	9⅛	CC	Mo	Zen	M	DR	DR	P.BB	Lo	Cle	Cla F212	Ge	L6IH	312	a	TX	118	63¾	34	38x2¼	40½x2½	N
34	215	5.1	137	27.3	60–2600	L	C	A	7–2¼	9⅛	CC	Mo	Zen	M	DR	DR	P.BB	Lo	Cle	Cla F212	Ge	L6IH	312	a	TX	118	63¾	34	38x2¼	40½x2½	N
35	263	5.4	164	31.5	67–2600	L	G	A	7–2½	10⅛	PC	Mo	Car	M	DR	DR	P.BB	Lo	Spi	Cla F212	Ge	L6IH	312	a	TX	143	86½	34	38x2½	40½x2½	N
36	263	5.4	164	31.5	67–2600	L	G	A	7–2½	10⅛	PC	Mo	Car	M	DR	DR	P.BB	Lo	Spi	Cla F212	Ge	L6IH	312	a	TX	143	86½	34	38x2½	40½x2½	N
37	381	4.8	240	40.8	85–2400	L	G	A	7–2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BB	Lo	Spi	Cla F320	Ros	L6IHV	495	a	FD	168	99½	34	42x2½	44x3	N
38	381	4.8	240	40.8	85–2400	L	G	A	7–2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BB	Lo	Spi	Cla F320	Ros	L6IHV	495	a	FD	168	99½	34	42x2½	44x3	N
39	381	4.2	237	40.8	85–2200	H	C	C	7–2¾	13⅛	CC	KP	Zen	M	DR	DR	P.BB	Lo	Spi	Own 7738	Ros	L6IHV	623	a	TD	182	102	34	42x2½	50x3½	N
40	677	4.4	460	60.0	125–2000	L	G	C	4–3½	11⅜	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Wis 131F	Ros	B6IMV	504	G	T4	220	145	34	48x3½	40x5	N
41	517	4.5	330	51.3	110–2400	L	G	C	7–3	13⅞	PC	Wa	Zen	M	NE	NE	D.BL	Pe	Blo	Own M	Ros	B6IA	864	G	4I	180	137	36	42¾x2½	44x3	N
42	525	4.5	380	48.6	128–2100	H	C	A	7–2¾	14⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B6IA	817	a	TX	161	100	34⅛	50x3¼	45x4	N
43	616	4.5	450	57.0	149–3100	H	C	A	7–2¾	14⅛	FP	Ha	Str	M	DR	DR	dp.Ow	Lo	Spi	Own	Jac	B6IA	965	a	TX	161	100	34⅛	50x3½	45x4	N
44	255	4.6	182	27.3	90–3200	F	G	C	4–2⅝	6⅛	PC	Wa	Zen	M	DR	DR	D.Fu	Ch	MM	Tim 33000H	Ros	L4IHV	295	p	TD	Opt	Opt	34	40½x3½	31x3	N
45	358	4.6	254	38.4	110–2800	F	G	C	7–2⅝	12½	PC	Wa	Zen	M	DR	DR	D.Fu	Ch	MM	Tim 33000H	Ros	L4IHV	295	p	TD	Opt	Opt	34	40½x3½	31x3	N
46	358	4.6	254	38.4	110–2800	F	G	C	7–2⅝	12½	PC	Wa	Zen	M	DR	DR	D.Fu	Ch	MM	Tim 35000H	Ros	L4IHV	504	G	TD	Opt	Opt	34	40½x3½	35½x4	N
47	462	4.6	324	45.9	125–2600	F	G	C	7–3	13⅞	PC	Wa	Zen	M	DR	DR	D.Fu	Ch	MM	Tim 27450	Ros	L4IHV	504	G	TD	Opt	Opt	34	43x3½	35½x4	N
48	462	4.6	324	45.9	125–2600	F	G	C	7–3	13⅞	PC	Wa	Zen	M	DR	DR	D.Fu	Ch	Blo	Tim 27450	Ros	We4IA	780	G	TD	Opt	Opt	34	43x3½	35½x4	N
49	677	4.6	440	60.0	126–1850	L	G	C	4–3½	10⅛	PC	Wa	Zen	M	DR	DR	D.BL	Ch	Blo	Tim 27450	Ros	We4IA	788	G	TD	Opt	Opt	34	43x3½	35½x4	N
50	638	4.3	410	54.1	126–1850	L	G	C	4–3	10⅛	PC	Pe	Zen	M	RB	No	dp.BL	Yo	Blo	Shu 715-11	Ros	We4rIA	720	G	TX	139	88¼	38½	41½x3	53x4	N
51	282	5.3	186	33.7	73–2800	L	G	A	7–2½	10⅛	PC	No	Str	M	AL	AL	P.BL	Yo	Spi	Tim 31020	Ros	L6IHV	559	G	TX	140	83	34	37x2¼	52x4	N
52	287	5.3	186	33.7	73–2800	L	G	A	7–2½	10⅛	PC	No	Str	M	AL	AL	P.BL	Yo	Spi	Tim 31020	Ros	L6IHV	459	G	TX	140	83	34	37x2¼	44x3	N
53	339	4.7	210	38.4	76–2400	L	G	A	7–2⅝	13¼	PC	Opt	Str	M	AL	AL	P.BL	Yo	Spi	Shu 5572	Ros	L4IHV	559	G	CD	168	101	34½	39½x2½	52x4	N
54	428	4.4	283	45.9	94–2200	L	G	A	7–3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 5582B	Ros	L6IHV	625	G	CD	168	101	34⅛	40x2½	52x4	N
55	428	4.4	283	45.9	94–2200	L	G	A	7–3	14	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Shu 5582B	Ros	L6 HV	625	G	CD	168	101	34⅛	40x2½	52x4	N
56	501	5.0	330	48.6	110–2200	L	G	A	7–3	12½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L6IHV	...	G	CD	142	87¼	34	39½x2½	54x3	N
57	529	4.9	350	51.3	115–2200	L	G	A	7–3	12½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	L6IHV	...	G	CD	142	87¼	34	44x3	52x4	N
58	779	4.5	505	66.2	163–2000	L	G	A	7–3½	17½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	We6IA	...	G	CD	144	88	34	44x3	42x4	N
59	855	4.5	555	72.8	180–2000	L	G	A	7–3½	17½	PC	Ha	Str	M	AL	AL	P.BL	Yo	Spi	Wis	Ros	We6IA	...	G	CD	168	100	34	44x3	42x4	N
60	282	4.7	176	33.7	73–2700	L	G	A	7–2½	10⅛	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 31000H	Ros	L6IHV	536	a	TX	168	102	31½	38x2¼	52x4	N
61	361	4.4	235	40.8	83–2400	L	G	A	7–2⅝	13¼	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L6IHV	536	a	FD	168	102	31½	38x2½	52x4	N
62	393	4.9	260	42.1	103–2600	L	G	C	7–3	11½	FP	No	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 33000H	Ros	L6IHV	654	a	FD	168	102	31½	38x2½	52x4	N
63	453	4.7	300	48.6	98–2200	L	G	A	7–3	14	CC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000N	Ros	We4rA	815	a	FD	192	120	33¾	42x3	56x4	½
64	501	4.9	330	8.6	110–2200	L	G	A	7–3	12½	CC	Ha	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	We4rA	815	a	FD	192	120	33¾	42x3	56x4	½
65	514	4.8	322	3.3	125–2400	H	C	A	4–2¾	10⅜	FP	HS	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	We4rA	815	a	FD	192	120	33¾	42x3	56x4	½
66	638	4.3	410	54.1	126–1850	L	G	C	4–3	10⅛	CC	Bu	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	We4rA	815	a	FD	192	120	33¾	42x3	56x4	½
67	707	4.4	506	60.0	170–2000	H	C	A	7–3½	11⅛	FP	HS	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	We4rA	815	a	FD	192	120	33¾	42x3	56x4	½
68	707	4.4	506	60.0	170–2000	H	C	A	7–3½	11⅛	FP	HS	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 36020N	Ros	We4rA	815	a	FD	192	120	33¾	42x3	56x4	½
69	754	5.1	510	76.7	240–2900	H	C	C	4–3½	10	PC	No	Zen	M	DR	DR	dp. Lo	Ow	Blo	Tim 27450tw	Ros	We6IA	782	Da	CD	111⅝	216	34	44x3	None	N
70	420	5.2	300	44.4	130–2800	L	G	C	5–2¾	12¾	FP	Ha	Str	M	DR	DR	D.Fu	Ch	Spi	Tim 35000H	Ros	L6IHV	525	a	CD	162	108	34	39x2½	39x2½	N
71	420	5.2	300	44.4	130–2800	L	G	C	5–2¾	12¾	FP	Ha	Str	M	DR	DR	D.Fu	Ch	Spi	Tim 35000H	Ros	L6IHV	633	a	CD	162	108	34	39x2½	46x3½	N
72	462	4.5	300	45.9	98–2000	L	G	A	7–3	13⅞	PC	Wa	Str	M	AL	DR	D.BL	Ch	Spi	Tim 35000tw	Ros	We6IA	711	a	CD	162	108	34	39x2½	46x3½	N
73	462	4.5	300	45.9	98–2000	L	G	A	7–3	13⅞	PC	Wa	Str	M	AL	DR	D.BL	Ch	Spi	Tim 26045tw	Ros	We6IA	966	a	CD	162	108	34	48x3½	53x4	N
74	549	4.5	332	48.6	100–2000	L	G	A	4–3½	11⅝	PC	Wa	Str	M	AL	LN	D.BL	Ch	Spi	Tim 26045tw	Ros	We6IA	966	a	CD	162	108	34	48x3½	53x4	N
75	677	4.6	460	60.0	127–2000	L	G	A	4–3½	11¾	PC	Wa	Str	M	AL	LN	D.BL	Ch	Spi	Tim 27045tw	Ros	We4IA	792	a	CD	162	108	34	48x3½	53x4	N
76	672	17.1	420	57.0	125–1800	H	G	C	7–3¼	16½	FP	Ow	No	P	No	LN	dp.BL	Ch	Spi	Tim 27045tw	Ros	We6IA	966	a	CD	162	108	34	48x3½	53x4	N
77	468	4.6	292	43.4	108–2400	L	G	C	7–3	12⅞	FP	Pe	Str	M	RB	NE	P.Ow	Ow	Spi	Own BX	Own	O6IA	974	a	FX	192	109	33¼	54¼x3	48x3½	N
78	611	5.7	398	54.2	128–2300	L	G	C	4–3½	10⅛	FP	Ow	Str	M	RB	NE	P.Ow	Ow	Spi	Own BQ	Ros	O6IA	902	a	FX	192	111	33¼	50x3½	48x3½	½
79	611	5.7	398	54.2	128–2300	L	G	C	4–3½	10⅛	FP	Ow	Str	M	RB	NE	P.Ow	Ow	Spi	Own AC	Ros	O6IA	930	a	FX	180	109	37⅜	48x3½	52x4	½
80	611	5.7	398	54.2	128–2300	L	G	C	4–3½	10⅛	FP	Ow	Str	M	RB	NE	P.Ow	Ow	Spi	Own AK	Ros	O6IA	1044	a	FX	180	109	38½	48x3½	52x4	½
81	706	4.4	427	60.0	138–1900	L	G	C	4–3⅞	11⅜	PS	Ow	Str	M	RB	NE	P.Ow	Ow	Spi	Own AK	Ros	O6IA	930	a	FX	180	109	38½	48x3½	52x4	½
82	706	4.4	427	60.0	138–1900	L	G	C	4–3⅞	11⅜	PS	Ow	Str	M	RB	NE	P.Ow	Ow	Spi	Own AK	Ros	O6IA	1044	a	FX	180	109	38½	48x3½	52x4	½
83	529	4.9	350	51.3	114–2200	L	G	A	7–3	14	PC	Ha	Zen	M	DR	DR	D.Fu	Yo	Blo	Own-Wis	Ros	Ws4/6IA	1836	a	FD	152	102	34	44x3	46x4	½
84	707	4.5	460	60.0	150–2000	L	G	A	7–3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	Ws4/6IA	1836	a	FD	174	102	34	44x3	46x4	½
85	779	4.5	508	66.2	164–2000	L	G	A	7–3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	Ws4/6IA	1948	a	2FD	223	127	34	52x4	46x4	½
86	855	4.5	550	72.8	180–2000	L	G	A	7–3½	17	PC	Ha	Zen	M	DR	DR	dp.BL	Yo	Blo	Own-Wis	Ros	Ws4/6IA	1948	a	2FD	223	127	34	52x4	46x4	½
87	282	5.0	176	33.8	73–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 30000H	Ros	L6IH	412	a	TD	168	71	34	40x2½	44x3	N
88	282	5.0	176	33.8	73–2800	L	G	C	7–2½	10⅛	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 31000H	Ros	L6IH	570	a	TD	168	67	34	40x2½	52x4	N
89	383	4.4	262	43.3	92–2400	L	G	C	7–2⅝	13¼	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 33020H	Ros	L6IH	578	a	TD	192	101	34	40x2½	42x2½	½
90	383	4.4	262	43.3	92–2400	L	G	C	7–2⅝	13¼	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim 33020H	Ros	L6IH	661	a	TD	192	101	34	41½x2½	43½x3½	½
91	501	4.9	330	48.6	110–2200	L	G	C	7–3	12½	PC	No	Zen	M	AL	AL	P.BL	Lo	Cle	Tim26450TW	Ros	W6IA	898	a	TD	216	113	34	42x3	43½x4	½
92	611	4.5	384	54.1	127–2300	L	G	A	7–3	13⅜	PC	No	Zen	M	AL	AL	dp.BL	Lo	Cle	Tim 27050W	Ros	W6IA	960	a	TD	Opt	Opt	38	44x3	48x3½	½
93	358	5.0	254	38.5	110–2800	F	G	A	7–2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 35000N	Ros	L4IHV	596	a	CX	192	91	34	42x2½	57x4	N
94	358	5.0	254	38.5	110–2800	F	G	A	7–2⅝	12½	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 35000N	Ros	L4IHV	596	a	CX	192	91	34	42x2½	57x4	N
95	549	4.5	330	48.6	99–2000	L	G	C	4–3½	11⅜	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 26450N	Ros	Ws4IA	576	a	CX	Opt	88	34	48x3	58x4	N
96	677	4.4	440	60.0	125–2000	L	G	A	4–3½	11⅝	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 27450N	Ros	Ws4IA	792	a	CX	Opt	89	34	48x3	58x4	N
97	677	4.4	440	60.0	125–2000	L	G	A	4–3½	11⅝	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 27450N	Ros	Ws4IA	792	s	CD	Opt	Opt	34	48x3	60x3½	N
98	462	5.5	324	45.9	125–2400	F	G	A	7–3	13⅞	CC	Ha	Zen	M	DR	DR	D.Ow	No	Spi	Tim 26450N	Ros	O4IA	792	a	CX	192	94	34	48x3	(10)	N
99	677	4.4	440	60.0	125–2000	L	G	A	4–3½	11⅝	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 27450N	Ros	O4IA	792	a	CX	192	93	34	48x3	(10)	N
100	462	4.5	300	45.9	102–2400	L	G	C	7–3	13⅞	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 26450N	Ros	O4IA	1152	S	JX	192	94	34	48x3	(10)	N
101	462	5.5	324	45.9	125–2400	L	G	A	7–3	13⅞	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim 26450N	Ros	O4IA	1152	S	JX	192	94	34	48x3	(10)	N
102	672	17.0	420	57.0	125–1800	H	G	C	7–3¼	16½	CC	En	No	M	CI	LN	dp.BL	Pe	Spi	Tim 27452W	Ros	We6IA	1012	a	TD	255	148¼	34	42x3	46x4	N
103	677	5.5	465	60.0	145–2000	L	G	C	4–3½	11¼	FP	Wa	Zen	V	DR	LN	dp.BL	Pe	Spi	Tim 27452W	Ros	We6IA	1012	a	TD	255	148¼	34	42x3	46x4	N
104	381	4.6	240	40.8	83–2200	L	G	C	7–2⅝	12½	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim 35000H	Ros	L6IHV	651	a	TD	192	115	34	42x3	52x4	N
105	462	4.6	324	45.9	125–2600	F	G	A	7–3	13⅞	FP	Wa	Zen	M	DR	DR	P.BL	Pe	Spi	Tim26450TW	Ros	We6IA	902	a	TD	192	116¼	34	42x3	46x4	N
106	434	4.9	275	42.0	105–2100	H	C	S	7–2¾	13½	FP	Ow	Zen	E	LN	LN	dp. Ow	Ow	Spi	Own 6D	Ros	L4rIHV	514	a	CI	194⅛	109⅜	34⅛	42x3	51½x4	N
107	519	4.0	333	45.9	118–2100	H	C	S	7–3	15⅛	FP	Ow	Zen	E	LN	LN	dp. Ow	Ow	Spi	Own 12D	Ros	We6IA	833	a	CI	194¾	109¾	34⅛	42x3	42x4	N
108	519	4.0	333	45.9	118–2100	H	C	S	7–3	15⅛	FP	Ow	Zen	E	LN	LN	dp. Ow	Ow	Spi	Own 12D	Ros	We6IA	833	a	CI	194⅜	109⅜	34⅛	42x3	42x4	N

pense and turn it back into the treasury by a general tightening up. Records of doubtful value should be eliminated. A careful re-design of printed forms will indicate that many can be made on your own duplicating machines.

So, although fleet operators found themselves "on the spot" when required to show increased economy, it was and is possible to economize still further. In our own fleet we shaved off 4 mills per mile the past 12 months on a million odd miles of passenger and light truck operation. It's that little bit here and little bit there that counts.

Every few seconds..



BENDIX·WESTINGHOUSE CONTROL pays for itself

Somewhere, every few seconds, the quicker, positive, more powerful action of Bendix-Westinghouse Control prevents an embarrassing if not costly situation. Statistics would prove this statement and elementary economics show the dollars and cents advantage of selecting this more advanced equipment . . . . especially where safety is a duly recognized item of operation. Needless to say, this thought is the very foundation for the obvious "big swing" to genuine Bendix-Westinghouse Air Control and is justification in itself for the slight additional cost of this time-tested equipment. Ask any operator if there have not been numerous instances when, in a split-second, Bendix-Westinghouse Control has been worth many times its original cost. We know of many. Write for information.

BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE COMPANY, PITTSBURGH, PA.

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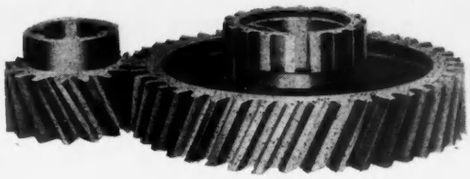

New

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GROUND TOOTH
HELICAL
GEARS

insure

QUIET OPERATION

for
TRUCK
TRANSMISSIONS
Improved Sliding Clutches
give EASY SHIFTING
performance.

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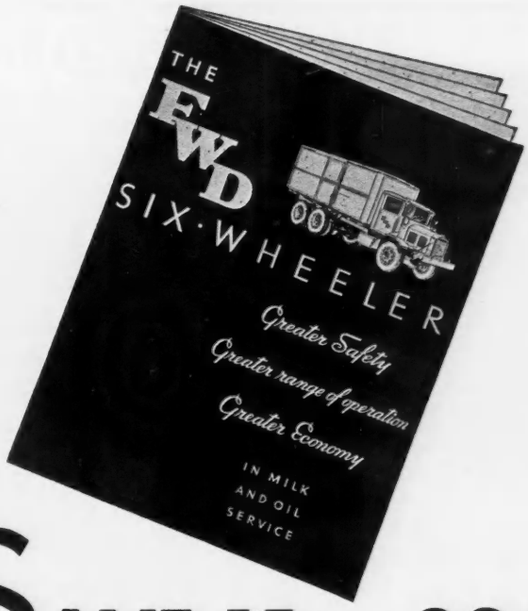
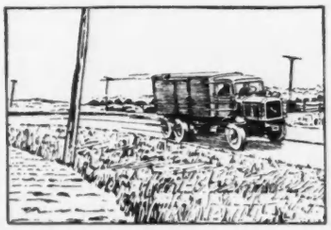
BROWN-LIPE CLUTCHES and TRANSMISSIONS	SALISBURY FRONT and REAR AXLES	SPICER UNIVERSAL JOINTS	PARISH FRAMES READING, PA.



SAVE 15 to 20%
IN TRUCK OPERATING COSTS...
send for this new 16 page booklet

On curves—up steep grades—over slippery surfaces—under capacity loads—the FWD Six-Wheel truck will perform dependably and furthermore *show operating savings of 15 to 20%*. Of course that is startling, but the FWD Six-Wheeler is far advanced over the average six-wheel truck. In the first place it employs the original four wheel drive principle, which distributes the power to two widely separated axles, permitting the efficient use of a center or third differential, an FWD feature since 1910. With power on the front and first rear axle, positive steering and adequate traction is assured effecting savings in light chassis weight, increased tire mileage and in maintenance. Let us prove to you how the FWD Six-Wheeler can save you money. Send for the above booklet.



SPEED ON CURVES — because the front wheels grip the road, a four-wheel-drive advantage.

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THE FOUR WHEEL DRIVE AUTO COMPANY
Clintonville, Wisconsin
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FWD

Gentlemen:
Kindly send me copy of catalog which describes and illustrates the FWD Six-Wheel truck.

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COIL PISTON RING

Seals oil and compression in OUT-OF-ROUND CYLINDERS

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The Truck-Mated Third Axle

Handles More Payload Than A Fifth Wheel Semi-Trailer. Built Specifically To Fit The Truck. Becomes An Integral Rear End Of The Truck. Perfect Tracking—Easy Steering.

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FOR ALL CLEANING REQUIREMENTS

Wyandotte PRODUCTS

THE J. B. FORD COMPANY
Wyandotte, Michigan

Commercial Leasing and Viewpoints Involved

(CONTINUED FROM PAGE 28)

a correlated supplementary sales opportunity to a prospect in that if for many reasons he cannot be leased (weak credit, for instance) the facts learned can be utilized for sales purposes and the cost per mile basis of the lease is the strongest sales point possible. If the lease is made, though, it guarantees that the affiliated dealer will receive all of the service business for two, three, or five years from that fleet (and the majority of it night service), and there is no possibility of poor service causing a dissatisfied customer. The affiliated sales agency is better able to carry out the preventive maintenance system of the leasing company because of trained personnel and proper shop equipment, and this method makes accurate costs per job possible for proper distribution to individual trucks rather than the inequitable haphazard pro-ration of overhead items which is responsible for the present unknown costs of fleet operation.

5. The Garage

The Commercial Leasing idea is the "Gift of Heaven" to large overbuilt garages that were built in the old "lacquer paint" days. The year-round revenues and tremendous gas, oil and garage service sales enable them to utilize non-salable space on a steady annual income basis, without summer and winter fluctuations, and during the night hours when organizations must be kept intact but activity is light.

The organization that has its own sales agency, garage, and commercial leasing company to purchase one from the other is indeed fortunate.

Handy Adds Representatives

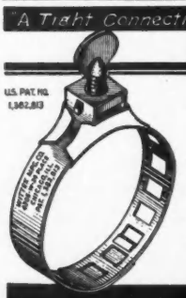
Continuing a policy of expansion through regional representatives, the Handy Governor Corp. has added the following connections: The Frank N. Smith Co., Minneapolis, and Darling & Nevins, Atlanta. Both will concentrate on oil filters.

LUCE MASTERCRAFT TRUCK BODIES

Production and Custom Built Body Equipment Vocationally Designed

LUCE MANUFACTURING CO.
Lansing, Michigan

"A Tight Connection All the Time"



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Standard equipment hose clamp of the automotive and airplane industry. Your jobber has them

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Almetal Universal Joint Co., Cleveland, announces additions to its present factory which will give 50 per cent more floor area. New machine tool equipment will increase output by 60 per cent.

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"Engineered Transportation"

LET your trucks *pull* the load — on Semi-Trailers. It means at least 200% more pay load with very little increase in operating expense. Send for booklet 13-A.
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